AUGUST 3, 1959

PAPER TRADE JOURNAL

Where: Intensive Forestry Vital to Swedish Wood-Using Industries

What: Practical Chemical Cleaning Methods for Machine Felts

When: 1959 May Be Record Year As Production, Expansions Boom

Who: Resurgence of Paper Industry on Taiwan Since World War II

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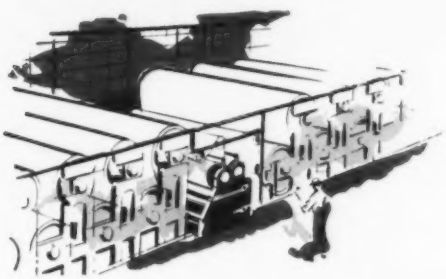
313 N. First St.
Ann Arbor, Mich.



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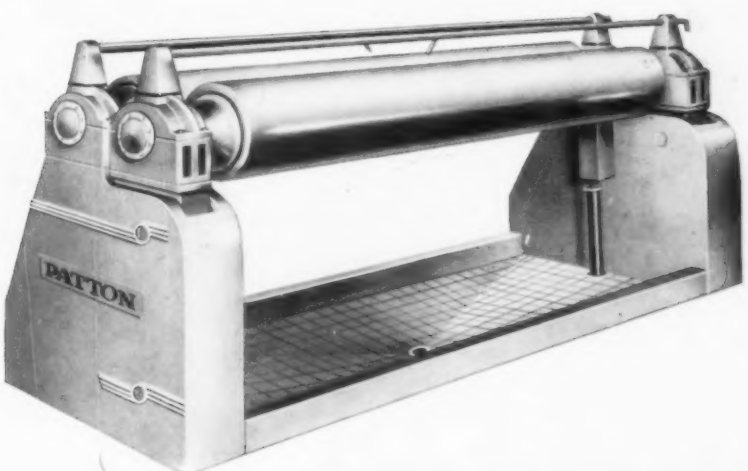

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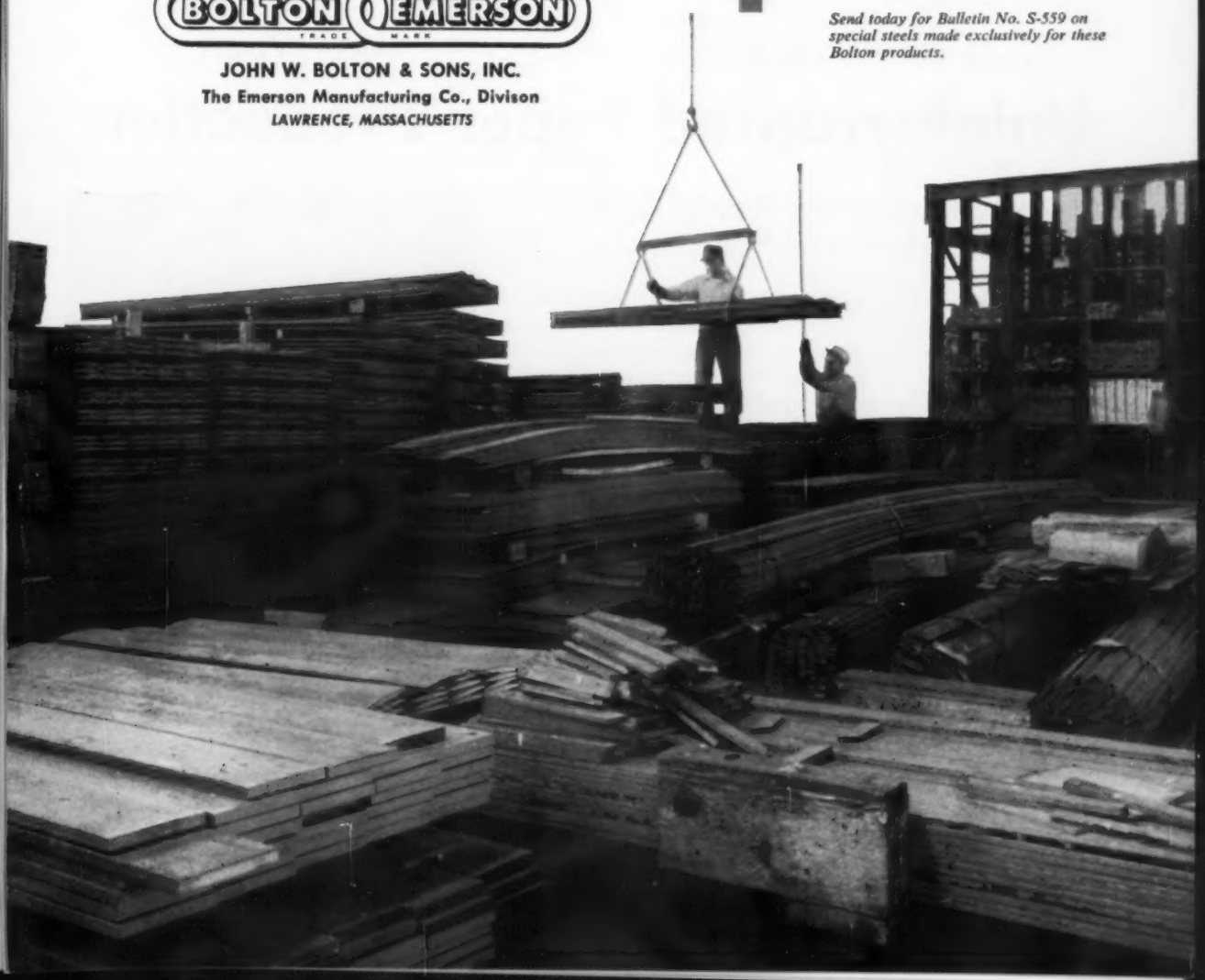

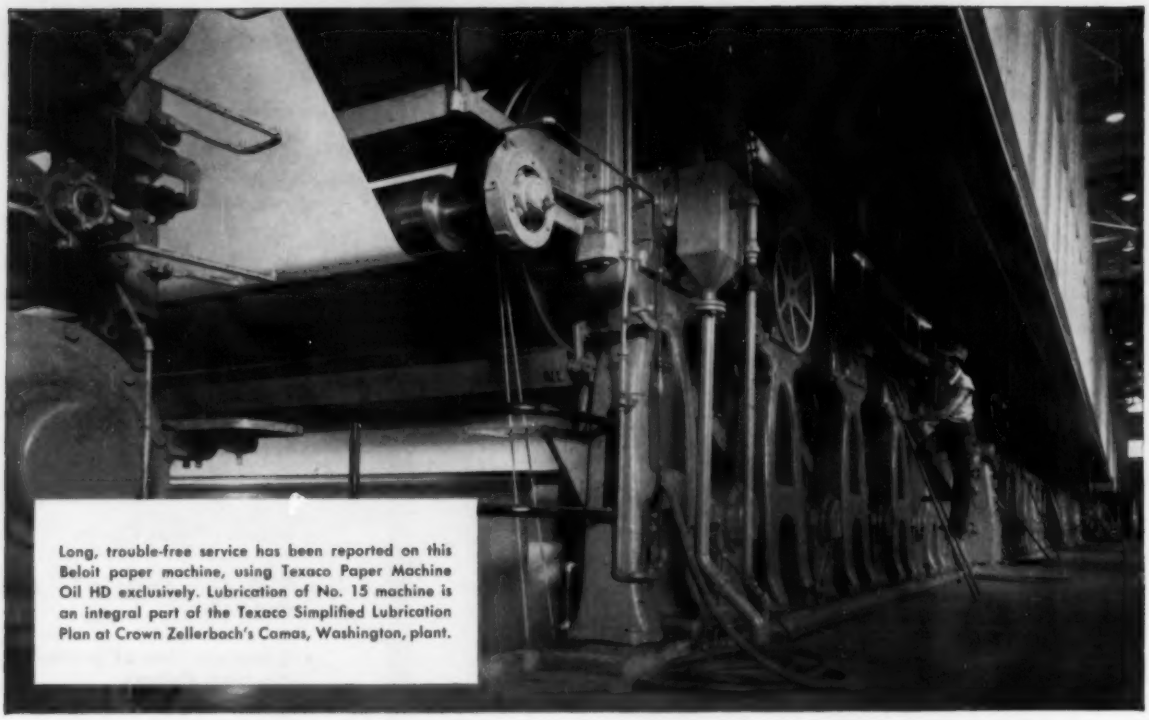

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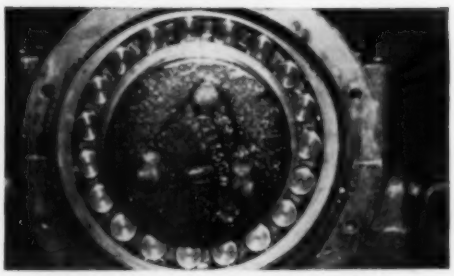

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LOCKWOOD TRADE JOURNAL CO., INC.
49 West 45th Street, New York 36.

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Published by Lockwood Trade Journal Co., Inc., at 34 North Crystal St., East Stroudsburg, Pa. Second class postage paid at East Stroudsburg, Pa. Printed in U.S.A.

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Paper established Feb. 17, 1899, combined with Paper Trade Journal Nov. 16, 1899. Paper established Sept. 21, 1910, combined with Paper Trade Journal February 19, 1926.

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Also publishers of Lockwood's Annual Directory of the Paper and Allied Trades.

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September 21-23. Paper-Plastics Conference, Edgewater Beach Hotel, Chicago, Ill.

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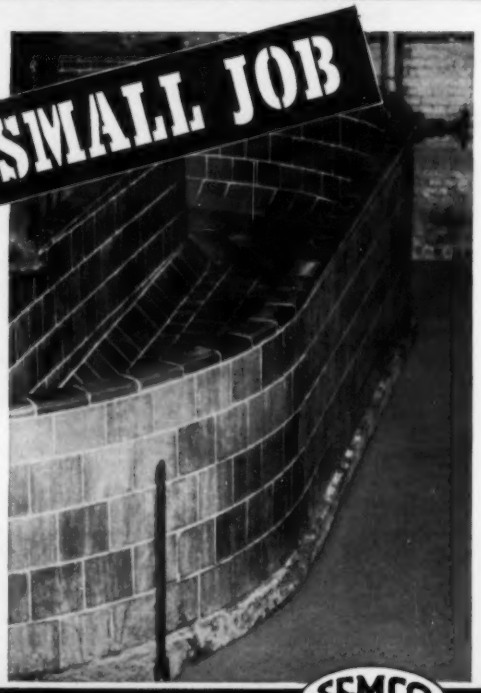

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Trends

Industry Upswing and Expansion Detailed

Resurgence in pulp and paper production and the many new expansion projects are presented in an article starting on page 28 of this issue.

Paper Imports Down Board Up

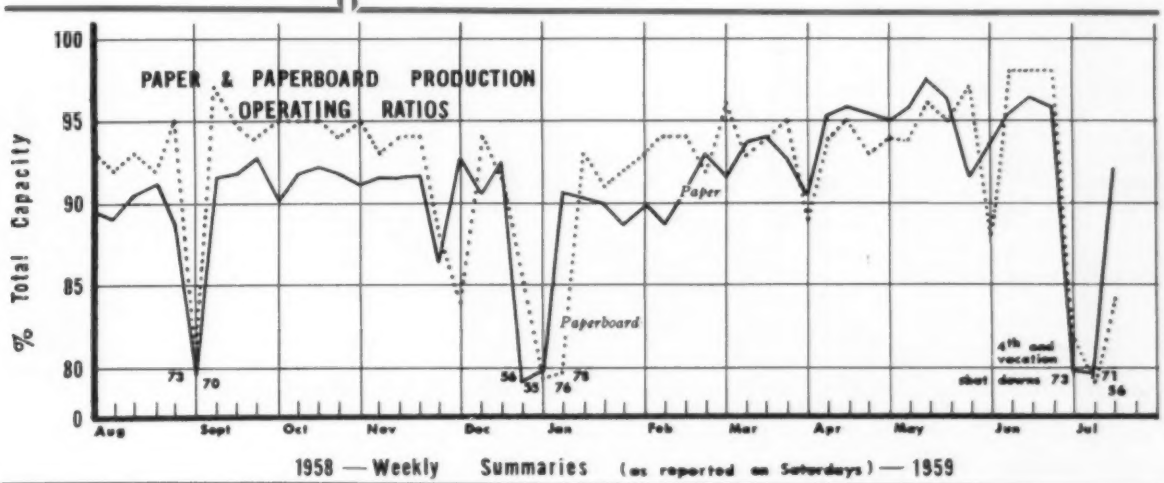
Paper imports for the first five months were down 6% compared with the same period last year, according to Bureau of Census data. Board imports were up 48% in the same period. However it should be pointed out that the board imports are small, being less than 4% of paper imports. Paper exports were off 11% for the period and board exports were ahead nearly 3%. Board exports were almost exactly double imports.

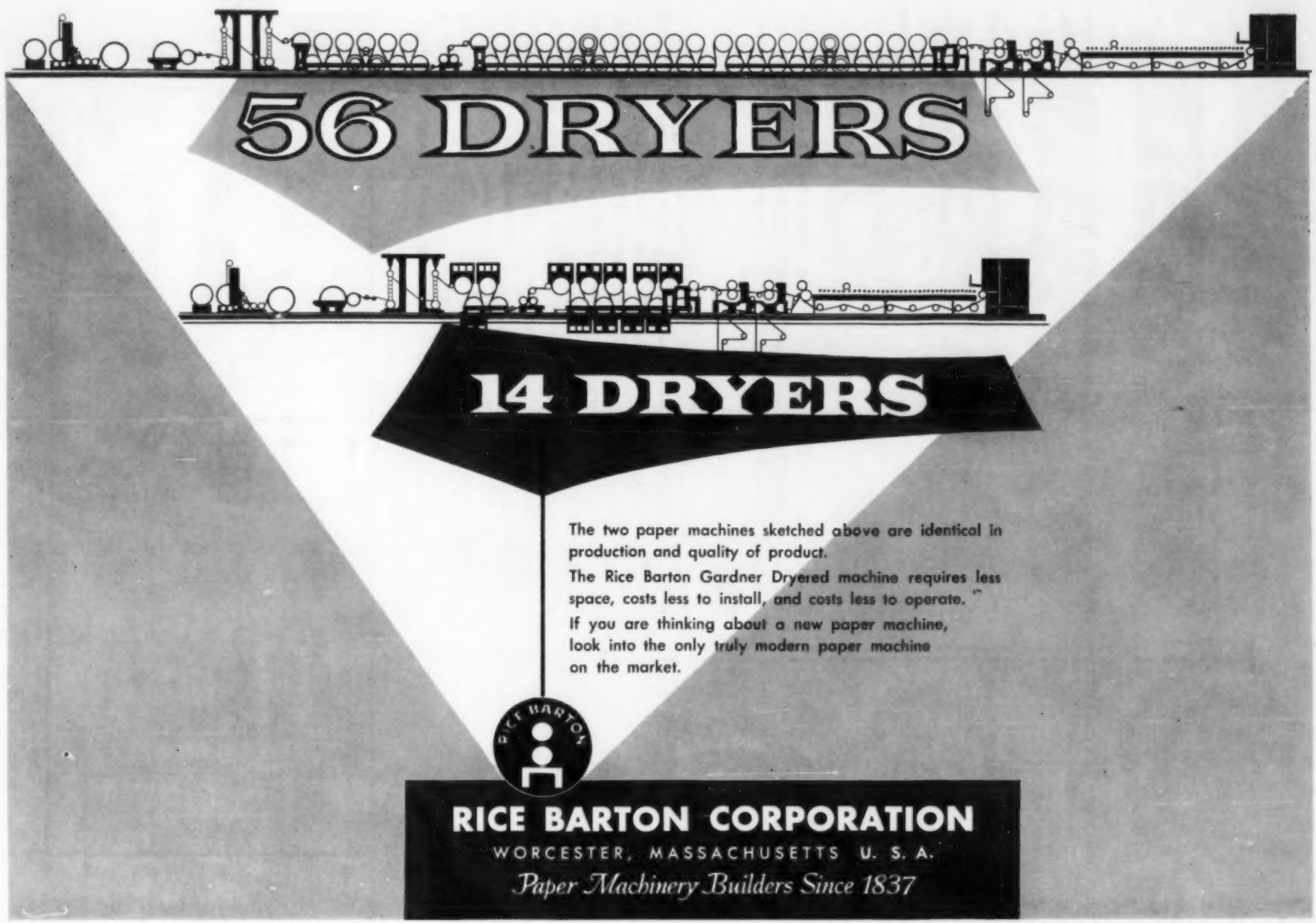
Predicts 4% Growth for Coated Papers

A minimum annual growth of 4% in coated paper sales through 1967 was predicted by Harold Murtfeldt, vice president, Consolidated Water Power & Paper Co., at a recent stockholders meeting.

Looking at Business Picture Over-all

The gross national product rose from $470 billion in the first quarter to over $484 billion in the second quarter. It is predicted that it will pass $500 billion by the end of the year. Because prices have remained relatively stable, this rise in the GNP is real and not due to price increases. The Federal Reserve Board Index of Production reached another all time high in June. The figure was 155 (1947-49=100) which compares with the recession low of 126 for April 1958. Construction was up 15% in June and for the first six months compared with the same periods last year. Employment in June reached a new high 67.3 million. Exports are not picking up as anticipated and imports are still rising. Crystal ball economists are predicting that the business upswing will continue on through 1960 but at a slower rate. Some sort of recession or business downturn is anticipated during 1961.

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AUGUST 3, 1939

PAPER TRADE JOURNAL

WEEK OF AUGUST 3, 1959

St. Regis to Spend $30 Million at Tacoma

St. Regis Paper Co. announces that it will shortly commence construction of a new kraft paper and paperboard machine at its mill at Tacoma, Wash., implementing an already announced plan for expansion at that center.

The new machine, which will have an initial capacity of 350 tons of kraft paper and board daily, will increase the rated capacity of the Tacoma mill to 250,000 tons annually. Included in the expansion program will be additional pulp manufacturing facilities and auxiliary equipment for the new machine. The machine to be supplied by Beloit will have a trim of 236 inches and include a secondary headbox designed to produce paperboard with the highest quality printing surface. Cost of this expansion program will approximate $30 million.

At present, St. Regis produces 400 tons of bleached and unbleached kraft pulp daily at its Tacoma mill. A large part of this pulp is used in the paper mill which has a capacity of 230 tons daily of bleached and unbleached kraft paper. These papers include wrapping, packaging, grocery bag, mutiwall shipping sack, bleached cup stock and other paper grades. Part of the production is consumed in St. Regis' three West Coast multiwall bag plants, located at Tacoma, and at San Leandro and Los Angeles, Cal. The Tacoma multiwall bag plant is located adjacent to the paper mill.

The new machine at Tacoma marks a further step in St. Regis' West Coast expansion program which includes the company's entry into the lumber and plywood and corrugated container fields in the West. The Tacoma mill, which was acquired by St. Regis in 1930, was its first West Coast pulp and paper operation.

St. Regis has expanded its timberland holdings in the West through the acquisition of the J. Neils Lumber Co. of Portland, Ore., and the St. Paul & Tacoma Lumber Co. of Tacoma, both of which are now divisions of St. Regis. The Neils holdings are composed of 300,000 acres of timberlands in western Montana and southern Washington. St. Paul & Tacoma has fir and hemlock timberlands of 133,700 acres located on the west slope of Mt. Rainier. St. Paul also operates a sawmill in Tacoma and a plywood mill at Olympia, Wash. In addition, Northwest Door Co. of Tacoma, now part of St. Regis, owns or controls 4,665 acres in the Puget Sound area.

The Growers Container Co. Division of St. Regis manufactures corrugated containers at Salinas and Fullerton, Cal. The Pollock Paper Co. Division manufactures wrappers, bands and end labels for the baking industry at San Jose, Cal., and waxed papers at Seattle, Wash. St. Regis also manufactures packaging machinery at Emeryville, Cal., and plans to build a new and expanded multiwall bag plant to replace its present Los Angeles plant.

Gilbert's New No. 2 Paper Machine Begins Operation

Production runs began July 20 at Gilbert Paper Co., Menasha, Wis., on its new No. 2 paper machine. Replacing an older, 1892 vintage machine, the installation was started June 16 and test runs began about a month later.

The fourdrinier, built by Valley Iron Works, is followed by three dryer sections plus breaker stack and size press. There is a total of 29 dryer drums. Additional drying capacity has been gained by the installation of four Gardner dryers. The machine has a dynamatic drive unit providing a speed range from a 50 f.p.m. crawl to 800 f.p.m. maximum speed. Leather-plastic belts transmit power from the lineshaft, and anti-friction bearings are used throughout the machine.

No. 2 will produce paper ranging from 6 to 81 lbs. per ream (17 x 22 — 500) and is equipped with a Beta ray gauge at the dry end to measure basis weight. Gilbert specializes in rag content bond, ledger, index, drawing, bank note and currency papers.

Another project, just started by Gilbert Paper Co., is a $100,000 addition to the finishing room. Increasing space for finishing operations by 50 per cent, the addition will be 72 by 100 feet in size.

Other projects include reconditioning one boiler in the power house and installing a new turbo-generator.

New Paper Machine for Longview Fibre

R. P. Wollenberg, vice president-operations of Longview Fibre Co., announces that equipment has been ordered for a new paper machine at Longview, Wash. The machine is said to be a relatively small one, to fit into an existing building, and is designed to make toweling, creped specialties and lightweight kraft papers. It is expected to make 50 tons per day of paper, but it will contribute somewhat more than this amount to the company's total daily tonnage by relieving larger machines of grades on which they do not produce at high rates.

The machine has been ordered from Beloit Iron Works. It will produce finished paper 84 inches wide at speeds up to 1,500 feet per minute. The machine has been designed to permit considerable interchange of parts and equipment with the company's existing No. 3 machine. Having two small machines side by side will give the company excellent facilities for making small runs of colors and other specialties.

Completion is expected by spring of 1960. Pulp is to be supplied from the existing pulp mill and bleach plant.

Major Expansion Program for Byron Weston

Byron Weston Co., Dalton, Mass., is embarking on an expansion and modernization program. The principal item in the project is a new 197-inch paper machine which is being ordered from Rice Barton Corp.

The machine will replace the mill's present No. 3 machine. The present machine's stock preparation equipment, including beaters, jordans, etc., will be replaced or modernized. Extensive preparation is necessary before the machine can be installed. Preliminary work has started and will continue throughout the winter in anticipation of the installation of the machine next summer.

Completion of the program may increase the capacity of the Weston plant from 15 to 20 per cent. Officials say the primary objective is increased efficiency and flexibility.

Byron Weston Co. became a division of Crane & Co., Inc., three years ago next month. Previously the company had completed a 10-year post-war program of modernization at a cost of three million dollars.

Potlatch Arkansas Mill Reported Closer

Potlatch Forests, Inc., has completed its plans for a plant in Desha County and needs only a commitment that a road will be built to the plant, and a rail spur constructed, County officials report. A letter from the Potlatch president to Desha County leaders, is said to state the company would then exercise its option to purchase the property and start building a proposed $35 million paper mill between Rohwer and Arkansas City.

In order to build the road County Judge J. L. Erwin has called a special election to be held August 10 at which time the electorate of the county will be asked to vote on a proposed $225,000 bond issue.

To Promote Mills for Missouri

A special legislative committee has been appointed by the Missouri House of Representatives to investigate the possibility of establishing pulp and paper mills in the Ozark area of Missouri. The committee is headed by Richard Ichord, speaker of Missouri House of Representatives.

In announcing the appointment of the committee, Speaker Ichord observed that Missouri forests constitute one of our major resources as one-third of the land area of Missouri is timbered.

He stated, "Our forests are not being used to their greatest economic advantage; it is true that the huge forests that impressed our early settlers are now just a memory but under improved methods of conservation and management Missouri has a new crop of excellent timber now beginning to reach maturity."

Because of this, plus new methods of utilizing hardwoods in the pulp making process, Missouri should be able to support one or more pulp mills at the present Mr. Ichord said.

Economy Corp. Div. Changes Name

The name of Madison Mills, a division of the Economy Corp., Madison, Me., has been changed to Kennebec River Pulp & Paper Co., Inc.

Officers and management of the Kennebec River Pulp & Paper Co., Inc., are: Louis Calder, Sr., president; Louis Calder, Jr., executive vice president; John I. Haney, vice president in charge of operations; Richard Trelfa, vice president; Philip R. Lyons, treasurer; Harry Kraft, secretary; L. B. Bartlett, mill manager; Joseph F. Gill, assistant mill manager; George Rogers, superintendent.

PIMA President Appoints Guidance Comm. Reps.

A. C. McCorry (St. Regis Paper Co., Tacoma, Wash.), president of the Paper Industry Management Assn., recently appointed two industry leaders to represent PIMA on a Joint Industry Career Guidance Committee.

Four other representatives, two each from the APPA and TAPPI, will complete the committee. The group has been formed to dramatize the pulp and paper industry to high school students.

Mr. McCorry named Walter Morehouse, Nopco Chemical Co., and C. Ives Gehring, Sealright-Oswego Falls Corp., as PIMA representatives on the joint Committee.

Paper and Board Production

According to the American Paper and Pulp Ass'n., the ratio of the United States production to mill capacity for the week ending July 18, 1959, was 92.0 per cent compared with 86.1 per cent revised for the preceding week. The ratio was 72.9 per cent for the corresponding week a year ago.

The paperboard production ratio for the week ending July 18, 1959, was 84 per cent compared with 56 per cent for the preceding week and 83 per cent for the corresponding week a year ago.

Low operating rates for week ending July 11 reflects the practice of vacation shutdowns by a number of mills.

(Detailed statistics on page 58.)

PAPER PEOPLE

St. Croix Paper Advances Elble and Paine

Two promotions have been announced by the St. Croix Paper Co.

C. W. Elble will assume the newly created position of engineering and electrical superintendent. He has been with the company since September 1947 in the capacity of electrical superintendent.

In his new capacity he will have charge of the engineering and instrument departments in addition to his present duties. He has been assisted by Daniel Hastings, who will continue in that capacity.

L. B. Paine will be promoted to the position of superintendent of maintenance. He came to the company last fall as project engineer in the engineering department.

In this post he will be in charge of mechanical repair crews assisted by Charles Libby, master mechanic, mechanical; Norman Walker, master mechanic, construction; and Darrell Morehouse, supervisor of lubrication.

The changes were brought about by the recent resignation of J. J. Vozella, plant engineer, who came to St. Croix in May 1957 from Rumford.

Hammermill Advances Three to New Posts

The appointments of two new superintendents and a chief operating engineer at the Erie Division of the Hammermill Paper Co. have been announced by Robert S. Young, manager of mill operations.

Joseph D. Lewis, former assistant superintendent, has been promoted to superintendent of the finishing division; while Clyde O. Bitting, former chief operating engineer in power, has been promoted to superintendent of the power division. Vincent G. Sheldon, a former division foreman, has succeeded Mr. Bitting as chief operating engineer in the power house. All three men are veteran Hammermill employees, with a total of more than 80 years of mill service.

In his new position as finishing superintendent, Joseph D. Lewis succeeds Adrian L. Kennedy who has transferred to a position in the technical sales service department.

L. J. McGuire

KVP Makes McGuire SW District Sales Mgr.

W. Donald Brownell, vice president in charge of sales for The KVP Co., Kalamazoo, announces the appointment of Louis J. McGuire as Southwestern district sales manager. He replaces William Schnieder who is to retire from the company on July 31.

Mr. McGuire, a graduate of Western Michigan University, Kalamazoo, joined KVP in August 1952. In January 1956, he was assigned to the company's New England district sales office in Boston, Mass., and in this assignment filled the responsibilities of a field salesman in the states of Connecticut and Rhode Island.

West Virginia Announces Engineering Dept. Changes

Promotions in the head office engineering department have been announced by Arthur L. Noble, chief engineer for West Virginia Pulp and Paper Co. Promoted were Robert C. Stamm from supervisor of design to senior project engineer; William E. Wassmer from project engineer to senior project engineer; Sheldon G. Mader from sponsor engineer to supervisor of design; William T. Ryer from sponsor engineer to project engineer; Charles More from structural engineer to staff structural engineer; Kenneth D. McGrayne from structural designer to structural squad leader; George Sondberg from mechanical designer to mechanical squad leader.

Mr. Noble also announced the addition of Jean P. Fatzer as a mechanical engineer and Charles J. McBride as an electrical designer-engineer to the West Virginia staff. Mr. Fatzer was formerly with Gibbs and Hill and Brown Boveri and Mr. McBride was formerly with Burns & Roe and Kennecott Copper.

Fibreboard Elects Carey a Director

E. W. Carey, vice president, marketing, Fibreboard Paper Products Corp., San Francisco, was elected a member of the board of directors. Mr. Carey, who has been vice president, marketing, for Fibreboard since January 1959 came to Fibreboard as vice president, administration, in April 1957.

Mr. Carey was born in Melbourne, Australia, on September 4, 1902. He graduated from Northwestern University School of Commerce in 1925, and then spent the next four years with Arthur Andersen and Co., public accountants in Chicago and Milwaukee. In 1929 he joined United States Gypsum Co., and during his 22 years with that organization served as controller, general dealer sales manager, and finally vice president—personnel.

Subsequently, Mr. Carey became executive management coordinator for a group of business enterprises in Indianapolis, Ind., and relinquished that position in 1957 when he was appointed vice president, administration, for Fibreboard.

FPL Head to Retire

J. Alfred Hall will retire August 31 as director of the U. S. Forest Products Laboratory at Madison, Wis., and will be succeeded by Edward G. Locke, chief of the institution's division of wood chemistry for the past eight years.

Dr. Hall will take up residence in Portland, Ore., where he will do consulting work for industrial concerns in the forest products field.

Dr. Locke is a native of Portland, Ore. He graduated from Oregon State College in 1928 and received his Ph. D. in organic chemistry from Ohio State University in 1932. He worked for several years as a chemist for the Ohio State Highway Commission and private firms.

In 1936, Dr. Locke became assistant professor of chemical engineering at Oregon State College. From 1942 to 1944, he was a chemical engineer in the industrial and resource division of Bonneville Power Administration. He joined the Forest Service in 1944.

Soyka Establishes Consulting Service

George E. Soyka, who resigned as technical director of John W. Bolton & Sons and Emerson Mfg. Co. recently, has established a consulting service under the name of George E. Soyka and Associates, with headquarters in Andover, Mass.

Appointments at Bird's Charleston Plant

F. H. Dilling has been appointed purchasing agent at Bird's Charleston plant in the post left vacant by Charles McDonald. T. T. Jacobs has been named assistant purchasing agent and William Mazyck is the new shipping foreman.

Riegal Paper Corp. Announces Promotions

Riegel Paper Corp., has announced the following changes:

A. P. Mitchell, senior vice president-sales, has been appointed to a newly created post, director of marketing. He will continue as senior vice president.

The name of the New Jersey Division has been changed to the Specialty Products Division in order to describe more completely the nature of its operations. G. Lamont Bidwell, formerly vice president and manager, has been named vice president and general manager. Charles E. Schaehrer has been elected a vice president of the corporation, and has been named sales manager of the specialty products division. He will also continue his present duties as manager, packaging materials sales. A. J. Ericsson, product manager for merchant and industrial sales, O. E. Lohrke, manager of merchant sales, and Benjamin Foose, Jr., manager of industrial sales, will report to Mr. Schaehrer in his new capacity.

In the Carolina Division, C. E. Hartford has been named vice president and general manager. He was formerly vice president and manager. Winthrop Endicott has been named sales manager of paper and paperboard for the Carolina Division reporting to Dr. Hartford. He was formerly manager, merchant and industrial sales.

The quality lithographing division will continue under the direction of Chalmers W. Barr, general manager.

W. A. Schenck, formerly upper mills manager, has been advanced to the newly created position of manager of paper production. In this capacity, Dr. Schenck will be responsible for all paper machine production and finishing in the Warren Glen, Hughesville, Riegelsville and Milford Mills.

Dr. L. A. Moss, formerly production manager of the Milford mill department, has been named manager of manufacturing services. In this capacity he will be responsible for engineering, laboratory, quality control, industrial engineering, purchasing, traffic, production control, and maintenance planning.

AMBASSADOR Richard R. Seppala of Finland, center, observes U. S. log handling methods during his June visit to Crown Zellerbach's West Linn, Ore., mill. With him at left is Malcolm J. Otis, resident manager. In Finland, according to Ambassador Seppala, trees are stripped of bark while in the woods. John O. Virtanen, Portland businessman and operator of the Finlandia House, foreground, accompanied the Finnish statesman.

D. T. Jackson, technical director, Hammermill Paper Co., Erie, Pa., who has been elected a vice president of the company.

Spruce Falls Board Elects Officers

The board of directors of Spruce Falls Power & Paper Company Ltd., has announced the election of J. R. Kimberly as chairman of the board and F. S. Seaborne, as president. Newly elected to the board of directors of Spruce Falls are G. M. Minard, vice president, and R. J. Shemanski, treasurer. W. W. Cross, Kimberly-Clark Corp., Neenah, Wis., was also elected to the board of directors.

The board of directors of Kimberly-Clark Canada Ltd., Kimberly-Clark Pulp & Paper Co., Ltd. and Kimberly-Clark Lumber (Canada), Ltd., also announce the election of J. R. Kimberly as chairman of the board and F. S. Seaborne, president.

Mead Board Sales Elects Three To New Posts

Harry J. Blum, David A. Mutchler and George R. Browner have been elected to positions of new responsibility with Mead Board Sales, Inc. Mr. Blum, Cincinnati, was named executive vice president in charge of sales, Mr. Mutchler, Detroit, vice president, and Mr. Browner, Lynchburg, Va., assistant vice president. Mead Board Sales, Inc., is a wholly owned subsidiary of The Mead Corp.

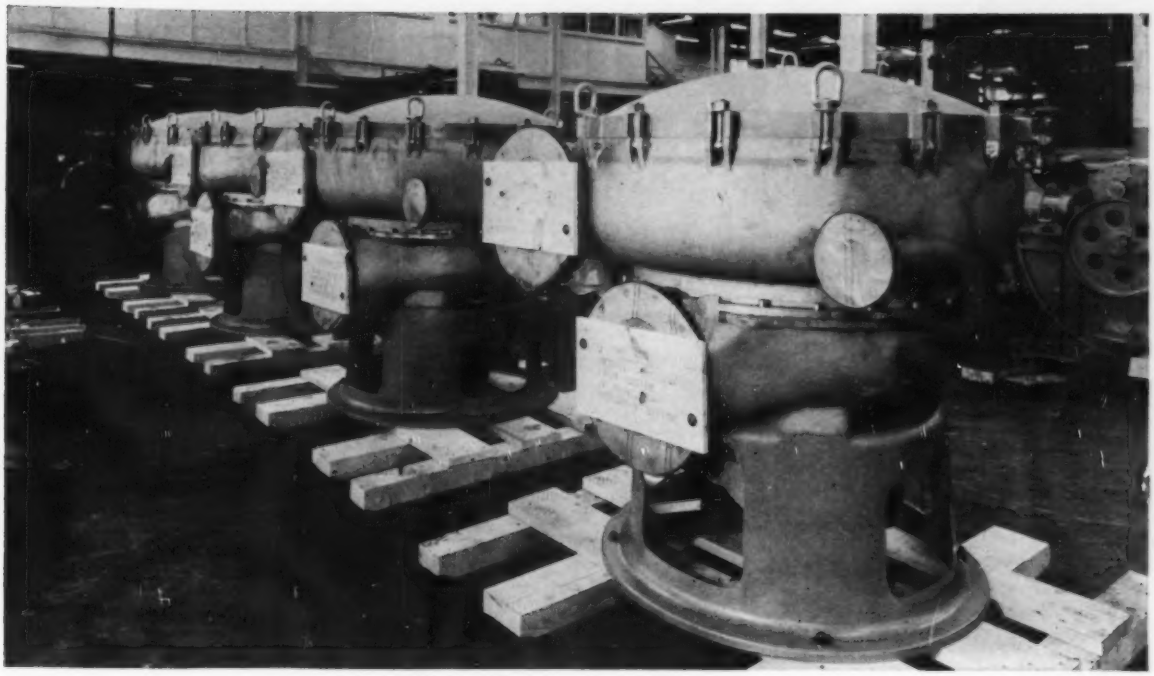
Mr. Blum, one of the founders of Mead Board Sales, Inc., in 1946, has been associated with the paperboard industry, specializing in sales, for 28 years.

Mr. Mutchler joined The Mead Corp. in 1935 at its Chillicothe Division. He became a salesman for Mead Board Sales, Inc., in the Detroit area following his discharge from the U.S. Navy as a Lieutenant Commander in 1946.

Mr. Browner, a Mead employee for 29 years, was a district sales manager prior to this promotion. In addition to his new duties he will continue to be responsible for the sales activities of Mead Board Sales, Inc., in the Southeast.

Sargent Promoted at Dexter

R. A. Sargent has been appointed production control manager at C. H. Dexter & Sons, Inc., Windsor Locks, Conn. Mr. Sargent is a graduate of Brown University and joined Dexter in 1950 as a chemist. In 1952 he was transferred to the production control department and now been made manager of this department.



Sincere Compliment To A Great Industry

These pictures of Bird Centriscreens, being readied for shipment (showing both the Model 14 for screening up to 5600 gpm and the Model 10 for Fourdrinier or Cylinder machines requiring less volume) are representative of the extraordinary demand for Centriscreens that has been built up in a few short months.

This is not so much a tribute to the skill of the men who designed and built the Centriscreen (for, after all, they enjoyed the benefit of fifty years of unequalled experience in the manufacture and application of pulp and paper screening equipment) as it is a tribute to the industry itself. For no other industry is more alert to new developments — quicker to take advantage of significant advances in production quality, output and economy.

Once the Bird Centriscreen demonstrated its ability to do a better job of shive and dirt removal, screen more stock per day at lower cost per ton, and assure freedom from mechanical troubles and from screen plate breakage, it was immediately accepted. The record of orders and repeat orders from mills making almost every kind of paper proves that.

If you are not already fully informed on the Centriscreen, what it can do on *your* stock, how much it can save — let Bird Machine Company, South Walpole, Mass., provide recommendations, layouts and estimates. Then decide for yourself.

Wrenn Paper Elects Evans V-P and General Manager

James S. Evans has been elected vice president and general manager of The Wrenn Paper Co., Middletown, Ohio, wholly owned subsidiary of The Mead Corp.

Mr. Evans, associated with Mead for 13 years, was transferred to Middletown as Wrenn's mill manager in November 1958 and had been acting general manager since the death of J. J. Hallowell, Wrenn president, on March 20, 1959.

He began his career with Mead in 1946 as an engineering trainee and was director of production-quality control at the Kingsport, Tenn., Division prior to joining Wrenn.

In his new position as operating head, he will be responsible for the sales and production of The Wrenn Paper Co., manufacturer of technical papers for the decorating and industrial laminating industries.

Two Join Allied Paper Quality Control Dept.

Millard C. Teague, director of quality control for the Allied Paper Corp., has announced the appointment of Ernest Cowell and Robert W. Head as staff associates in his department.

Mr. Cowell is a graduate of the University of Michigan and Western Michigan University, with degrees in chemistry and paper technology. He was formerly employed as a quality control engineer and customer service representative of the fine paper division of the West Virginia Pulp and Paper Co.

Mr. Head was formerly employed by the Ecusta Paper Division, Olin Mathieson Chemical Corp. in Pisgah Forest, N. C., where he was quality foreman. He brings to Allied 18 years of papermaking experience in the quality control field.

Carroll Retires from Newton Falls Paper

George S. Carroll and his wife Althea were recently honored at a farewell party at Newton Falls, N.Y. Mr. Carroll is retiring from active service in the paper industry after 45 years with the industry. The last 11 years have been spent in the employ of the Newton Falls Paper Co., as general superintendent and assistant to the president. Previously, Mr. Carroll was associated with the American Writing Paper Co., Monadnock Paper Mills and the Hopper Paper Co.

Mr. Carroll plans to spend his summers at his home in East Washington, N. H., and his winters in Orange Lake Village—Largo, Fla., where he has recently purchased a home. He plans to be available for consulting on a limited basis.

R. R. MORRIS, whose promotion to assistant resident manager of Crown Zellerbach's Camas mill was announced in our July 27 issue.

W. O. BEATON, whose appointment as resident manager of the C-Z Lebanon mill, succeeding Mr. Morris, was also announced.

McCune Joins Berstrom

John T. McCune has assumed the new position of communications manager at Berstrom Paper Co., Neenah, Wis. For nine years he has been coordinator of Information Service, Wisconsin Paper Industry, the community public relations organization for the paper industry in Wisconsin.

New Machine Room Super at Jesup

W. Young has recently replaced J. Larsen as machine room superintendent at Rayonier's Jesup, Ga., pulp mill. Mr. Young moved to Jesup from Rayonier's Shelton, Wash., plant where he has been employed since 1928.

Haynie Elected Pres. Of Brazilian Firm

The Champion Paper and Fibre Co., Hamilton, Ohio, has announced the recent election of Robert C. Haynie as president-director of Panamericana Textil, S. A.

This firm is erecting a pulp mill at Mogi Guacu, Brazil, which is to be that country's first fully integrated pulping facility when it is completed sometime next year. Champion, having a substantial financial interest in the new firm, is supervising the erection of the plant and will manage its operation.

Mr. Haynie will retain his position of vice president and general manager of Champion's South American division. He succeeds M. C. Walsh, who, as the first president-director of the Brazilian company, guided the project through the first stages of its development. Mr. Walsh has returned to Hamilton as special consultant to Champion's corporate development group.

Ohio Boxboard Names Dolph Indus. Relations Dir.

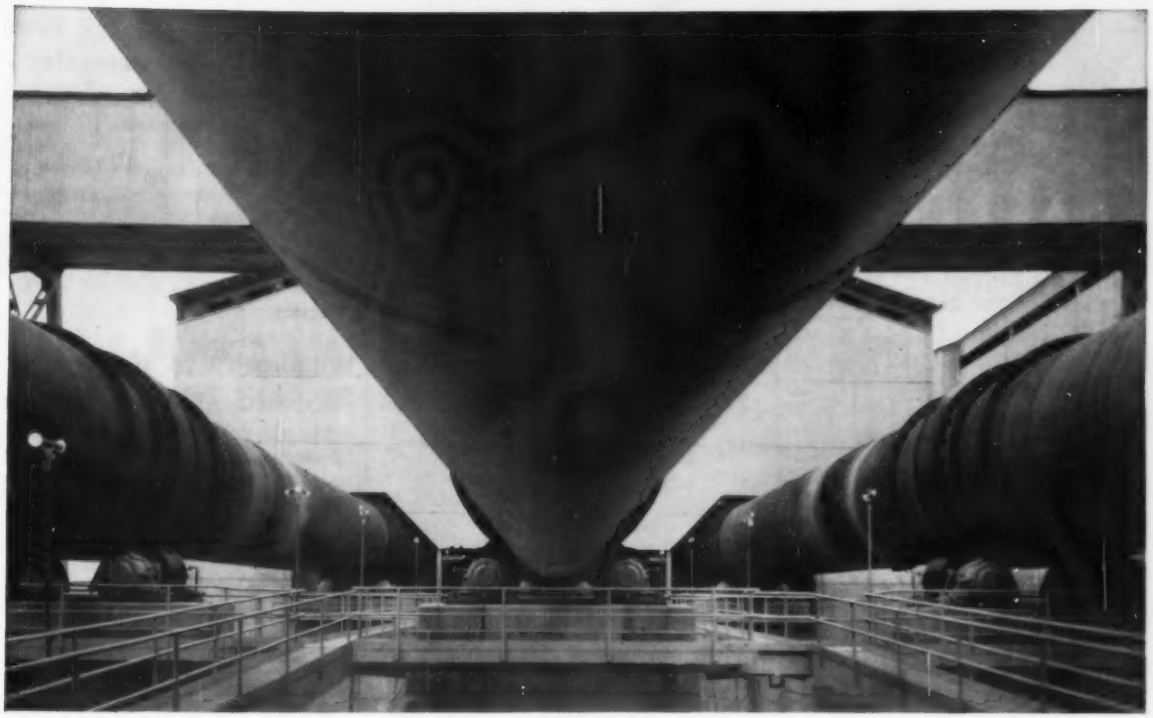
Palmer C. Dolph, Jr., has been named director of industrial relations for all Ohio Boxboard Co. operations. His supervision of the company's overall personnel program includes personnel and labor relations, training and development, safety and security, employment and health insurance and community relations.

Mr. Dolph joined OBCo in January 1955 as director of labor relations and was promoted to assistant director of industrial relations in August 1957.

Gehr to Be Plant Mgr. of Chicago Mill

Charles Gehr has been appointed plant manager of Container Corp. of America's Lake Shore Mill, Chicago. He joined Container Corp. in 1950 at the company's Philadelphia mill and became a paper machine superintendent in 1952. In 1958, he was transferred to California as mill manager of the Los Angeles 57th Street mill, a post he held until his new appointment in Chicago.

Mr. Gehr is a graduate of New York State College of Forestry's Pulp and Papermaking School at Syracuse. While at Los Angeles, he was granted a three-month leave for service with Europa Carton Akt., a Container Corp. subsidiary in West Germany.



HARBISON-WALKER *Balanced* LININGS
assure LONGER LIFE, LOWER OVERALL COSTS

In the operation of rotary lime kilns, there are many variables that affect the life of the refractory lining. Chemical composition of the charge, burning temperature, type of fuel, rate of feed —these are some of the factors that must be considered in the selection of refractories. Best results are assured when the properties of the refractories in each zone are balanced in relation to service life and cost.

Harbison-Walker refractories include all classes of brick, castables, plastic firebrick, mortars and insulating products.

Harbison-Walker offers technical service and recommendations that will result in the best balance for your particular conditions.

FOR HIGH TEMPERATURE ZONES

ALUSITE. This leading brand of 70% alumina refractory owes its extremely wide use for rotary lime sludge kiln linings to its unusual combination of desirable properties. Its high density and low permeability account for its excellent resistance to penetration, such as promotes fluxing. ALUSITE is strong and highly resistant to mechanical stresses, abrasion and thermal shock.

FOR CHAIN SECTIONS

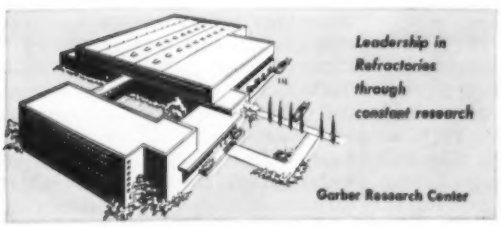
DURO, WYLAM A. These brands are the outstanding wear-resistant rotary kiln liners for chain sections of lime sludge kilns and for cold zones of limestone burning kilns.

FOR INTERMEDIATE ZONES

ALAMO (Super-Duty), **H-W CROWN** (High Duty). Typical brands for intermediate zones. Harbison-Walker super-duty and high-duty fireclay brick, available from widely distributed plants assure lowest delivered costs, and fulfill all requirements for intermediate and cold zones.

MONOLITHIC REFRACTORIES

H-W EXTRA STRENGTH CASTABLE, among the various classes of monolithic refractories, is strongest and most resistant to impact and abrasion. It is easily applied around all designs of chain holders and renders excellent service in positions which are subjected to extreme wear.



HARBISON-WALKER REFRACTORIES COMPANY
AND SUBSIDIARIES

World's Most Complete Refractories Service

GENERAL OFFICES: PITTSBURGH 22, PENNA.

NEWS OF CONVERTERS

Federal Names Marshall Mgr. of New Haven Div.

Appointment of Raymond W. Marshall as resident manager of the National Folding Box Division, Federal Paper Board Co., Inc., has been announced.

Mr. Marshall who has been with Federal Paper Board for 20 years, has most recently served as production manager for the company's midwest folding carton operations at Morris, Ill., and Marion, Ind. He succeeds Harold F. Phomann, who is leaving the company's service.

A veteran of 29 years in the folding carton field, Mr. Marshall will bring a background of diversified experience to Federal's large New Haven carton division. He attended Columbus schools and the University of Akron.

Fibreboard to Construct New Plant in Phoenix

Fibreboard Paper Products Corp. announces that construction will start immediately on an integrated shipping container plant in Phoenix, Ariz.

Construction of the new plant will be completed by the end of the year. Heart of the plant's operation will be an 85-inch corrugator, the first modern machine of its kind in Arizona. It will convert paperboard from Fibreboard's western mills into corrugated board for shipping containers.

New Haven Board & Carton Absorbs Fitzhugh Co.

At a special meeting of stockholders of The New Haven Board & Carton Co. on July 22, the stockholders approved a proposal for an exchange of 102,321 shares of common stock of the company, plus $300,000 in serial notes for the bulk of the assets and business of William W. Fitzhugh, Inc., of New York City. William W. Fitzhugh, Sr., William W. Fitzhugh, Jr., and James J. Wilson, all executives of the Fitzhugh company, were elected to the New Haven board. The other board members are: Harry M. Bull, Sterling R. Chatfield, Ellsworth W. Cowles, William B. Gumbart, Joseph S. Miller, Julian H. Morgan, Albert S. Redway, and William R. Tittel.

The company's operations will now include a folding carton and label plant located in Brooklyn, N.Y., a corrugated box plant in West Hempstead, L.I., both formerly operated by the Fitzhugh Co.; paperboard and carton plants in New Haven, Conn., and Ilchester, Md., and also the Fish Pier Box Co., Inc., Boston, Mass.

Hampel and Moses Step Up at Diamond Gardner

Diamond Gardner Corp. has announced two promotions at its Lockland operation.

Howard L. Hampel has been named staff assistant to the superintendent of the carton plant, and Ausben Moses, Jr., has been advanced to maintenance engineer in the maintenance and power department.

Nashua Appoints Denner Mgr. of Set-Up Box Sales

Philip E. Denner has been appointed manager of set-up box industry sales, by Nashua Corp., Nashua, N. H.

Mr. Denner was velour specialist for the Converter Sales Division. He joined Nashua as sales administrator of the former Velour Products Division in 1953.

James J. Dugan has been appointed velour specialist to succeed Mr. Denner.

Mr. Dugan was velour sales administrator in the Converter Sales Division for the past two years. Previously he served in the company's Cost Department. He has been with Nashua Corp. since February 1948.

BFI Sets Date For Fall Meeting

The Fall Outing Meeting of the Business Forms Institute will be held September 21, 22 and 23, 1959, at Skytop Lodge, Skytop, Pa. The full agenda for the meeting, including speakers, has not yet been announced.

New Corrugated Box Plant Going Up Near Lancaster

Ohio Boxboard Co. is building a new $2 million corrugated box plant near Lancaster, Pa. The new plant is expected to go into production late this fall. Stockholders of Ohio Boxboard recently approved a merger with Central Fibre Corp. and American Box Board Co. The new company will be known as Packaging Corp. of America.

Willoughby to Manage St. Regis Toledo Plant

The appointment of Lynn Willoughby as resident manager of the multiwall bag plant of St. Regis Paper Co., in Toledo, Ohio, was announced by the company.

Mr. Willoughby, formerly assistant manager of the plant, succeeds Arthur G. Hartman, who died recently.

Mr. Willoughby joined St. Regis Paper in 1936 at the Carthage, N. Y., bag plant and later became manager there. He was named assistant manager of the Toledo bag plant in 1951.

New Milwaukee Firm To Serve as Mill Agent

A new firm, Boxmakers Supply Co. has been organized in Milwaukee at 721 W. Capitol Dr. to serve as mill agent in the sale of paperboard and boxboard throughout Wisconsin. The company was formed by William K. Sharples, Grafton, formerly assistant sales manager, paperboard division, Cornell Paperboard Products Co. Mr. Sharples is president and Frank A. Wanner, Milwaukee, is office manager.

Federal Container Markets Humidity-Resistant Box

Federal Container Corp., Minneapolis, Minn., has announced development of a new corrugated box which resists water and high humidity—yet costs no more than ordinary boxes. Federal is marketing these new boxes under the trademark "DRI-BAK."

The new boxes are said to be excellent for shipping produce, frozen goods, and other wet products because they stand strong and straight even under prolonged exposure to high humidity, frost, or freezing. Tests indicate that DRI-BAK board will not fall apart or de-laminate even when submerged in water for 72 hours (time elapsed certified)—and when DRI-BAK dries, it quickly returns to its original condition.

THE Langston Leader PAPER MILL EDITION

Leadership...by design

SAMUEL M. LANGSTON CO. • CAMDEN 4, N. J.

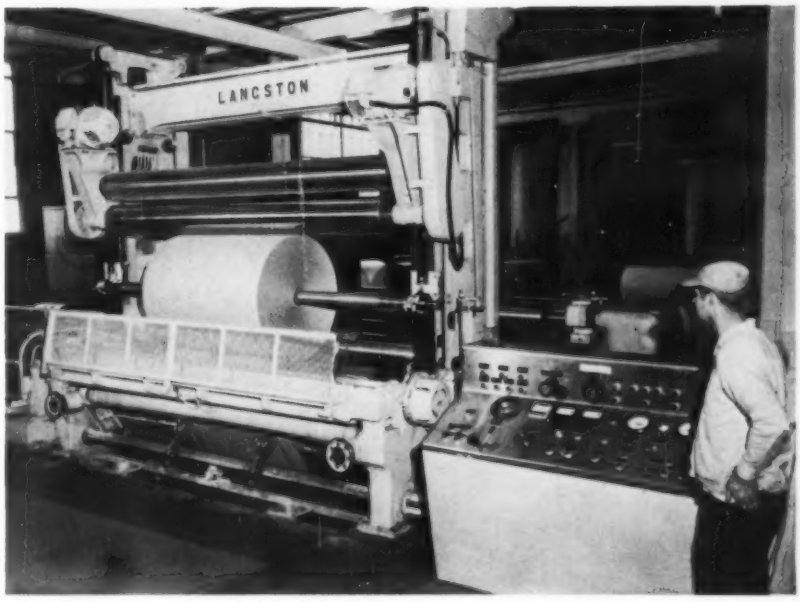
JULY, 1959 | *Published for the information of paper and board mills* | VOL. 1, NO. 3

RUGGED WINDER FOR SALVAGE OR PRODUCTION

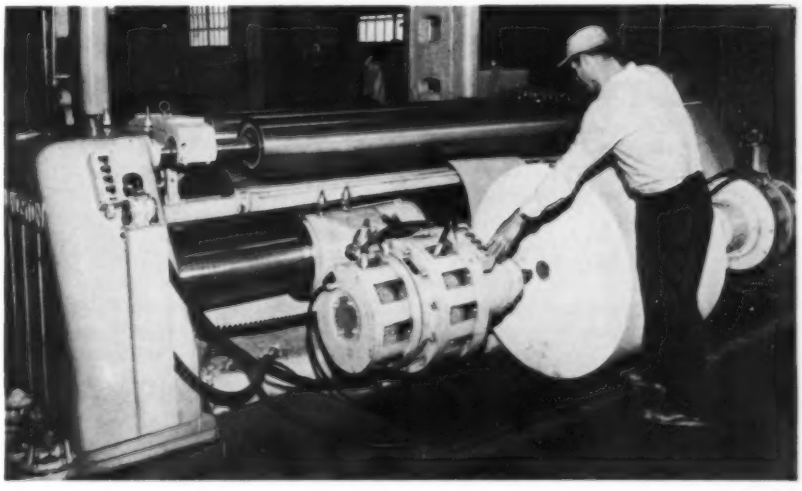
Shipping Rolls Made From Gamut of Grades By Langston Machines

When you want a rewinder, you want a winder that's rugged and versatile, a winder with the necessary quality for salvaging rolls that otherwise would be lost. It should be able to handle a wide range of grades, be adaptable to parent rolls of varying widths and diameters—and still turn out shipping quality rolls.

Here is an illustrated story of an installation that fills the bill. A Langston winder, shaftless backstand and roll drop are operating—to the complete satisfaction of management—in one of the mills of a leading paper and board manufacturer. The equipment is used for production and general finishing and has been outstanding in salvaging poor rolls and getting quality shipping rolls.



VERSATILITY to slit and rewind wide range of grades and widths into shipping rolls is outstanding in this rugged Langston type DA winder, console, roll drop and backstand.



NO BULLWORK with heavy shafts is needed at backstand. Roll is grasped, raised and positioned laterally by pushbutton. Heavy duty brakes maintain constant preselected tension.

Equipment Features

The Langston winder is a heavy duty, 112-inch wide, 60-inch diameter rewind machine, has a two-inch wide minimum slit and a rated capacity of 2000 feet per minute.

Accessory equipment includes the Langston patented "Roll Density Controller," console operated rider roll control, counterbalanced rewind shaft control, roll ejector, Langston shear cut slitters, rider roll motor drive, Mt. Hope spreading roll, air brakes, winder guard, and a Reliance variable speed drive. The winder is installed over a pit to permit easy accessibility to all machine elements and functions.

The backstand is the Langston shaftless type and is equipped with constant tension braking and oscillation and built to be fitted with automatic side-register control when desired. This backstand will handle rolls 62 inches in diameter and from 115 inches wide down to 20 inches wide.

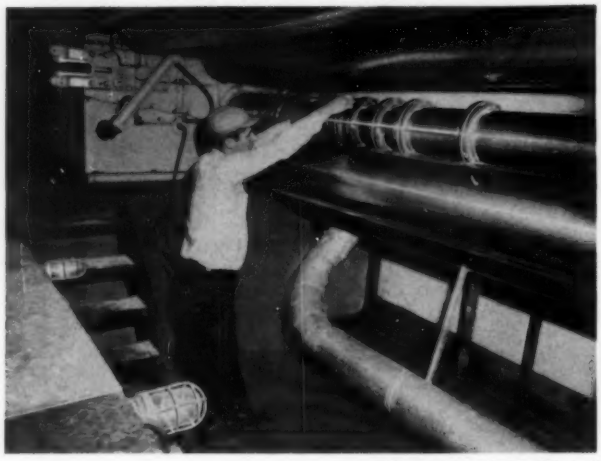
Wide Range of Grades

The machine is slitting and rewinding rolls of bleached kraft, ranging from 30 to 300 pounds basis weight and including a wide variation of paper finishes.

The rider roll arrangement includes a patented hydraulic rider roll control which accurately maintains the correct rider roll force, decreasing this force as a function of roll buildup, thus measurably contributing to the desired roll density.

By being able to govern precisely and automatically the amount of weight applied by the rider roll, the operator can pre-select for his run the pressure

(Continued on Page 2)



. . . slitter setup is facilitated

. . . square-ended, shear-cut product

Rugged Salvage Winder

(*Continued from preceding page*)

proven best for certain basis weights, for example, 2500 pounds for 14-caliper board or 600 pounds for 30-pound kraft.

Maintains Nip Pressure

This feature also maintains a constant uniform nip pressure—another important factor in producing rolls of uniform density. It also supplies a means of raising or lowering the rider roll manually by pushbutton rather than by wheel or through chain drives.

The rider roll is driven by separate satellite motors electrically interlocked with the main variable voltage drive. By controlling the torque input transmitted by the rider roll to the roll of paper, the drive arrangement also contributes to roll density control and provides a uniform rate of acceleration and deceleration, emergency dynamic braking, jogging and threading.

Eliminates Deflection

The rewind shaft brackets are hydraulically controlled, making it easier to raise and lower the shaft for threadup and startup. This hydraulic control, by counterbalancing the weight of the rewind shaft, eliminates deflection with resultant whipping of the shaft, when running narrow rolls—particularly important in a salvage winder.

Idlers and winding drums are both equipped with air brakes so that when the winder has completed a roll, the idlers come to a halt—a big safety factor and a time saver. You don't have to wait for the idlers to stop spinning. Automatically, all rotating elements are braked to a quick stop. Then you can threadup without a wait.

Dependable Separation

For dependable separation of the rewound rolls, the winder's Mt. Hope roll is adjustable for depth and angularity, also helps eliminate surface scratching or marking of the sheet.

Tidland pneumatic inflatable core shafts are used. They are equipped with dumbbell-type anti-friction thrust bearings which eliminate end play by locking the shaft to prevent lateral movement.

The slitters are the fixed shear-angle type, a feature credited strongly with producing razor-sharp, clean-cut and dust-free slitting.

All Controls In Console

A Langston console incorporates at one spot all the controls—electrical, hydraulic and pneumatic—for winder, roll drop and backstand.

Easier and quicker handling of rewound rolls is achieved by use of the roll ejector in combination with the roll drop. With these features you don't risk the danger—when cranes must be used—of damage to the winder from a swinging roll or to the shafts from the grip of sling or hook. Also, the roll ejector and roll drop save operating downtime and can result in more roll production per day.

The roll drop table is extra-rugged to take repeated shocks and of scissors-type construction, needing a much shallower pit than the single shaft-type lift. The rise of roll stops and the bridging between the roll drop and the winder operate automatically.

Rugged Brakes

In handling parent rolls of a great variety of widths, grades and weights, this installation benefits from the rugged brakes of the shaftless backstand and their sensitivity over the wide range of required performance from a 112-inch wide, 300-pound sheet to a 20-inch wide, 30-pound sheet.

From the broad heavy sheet to the narrow light sheet—and many variations between the extremes—the pneumatic constant tension braking accurately applies and maintains constant preselected tension. This is accomplished by means of a sensing idler roll and pneumatic sensing control which registers sheet tension and automatically adjusts the braking effort.

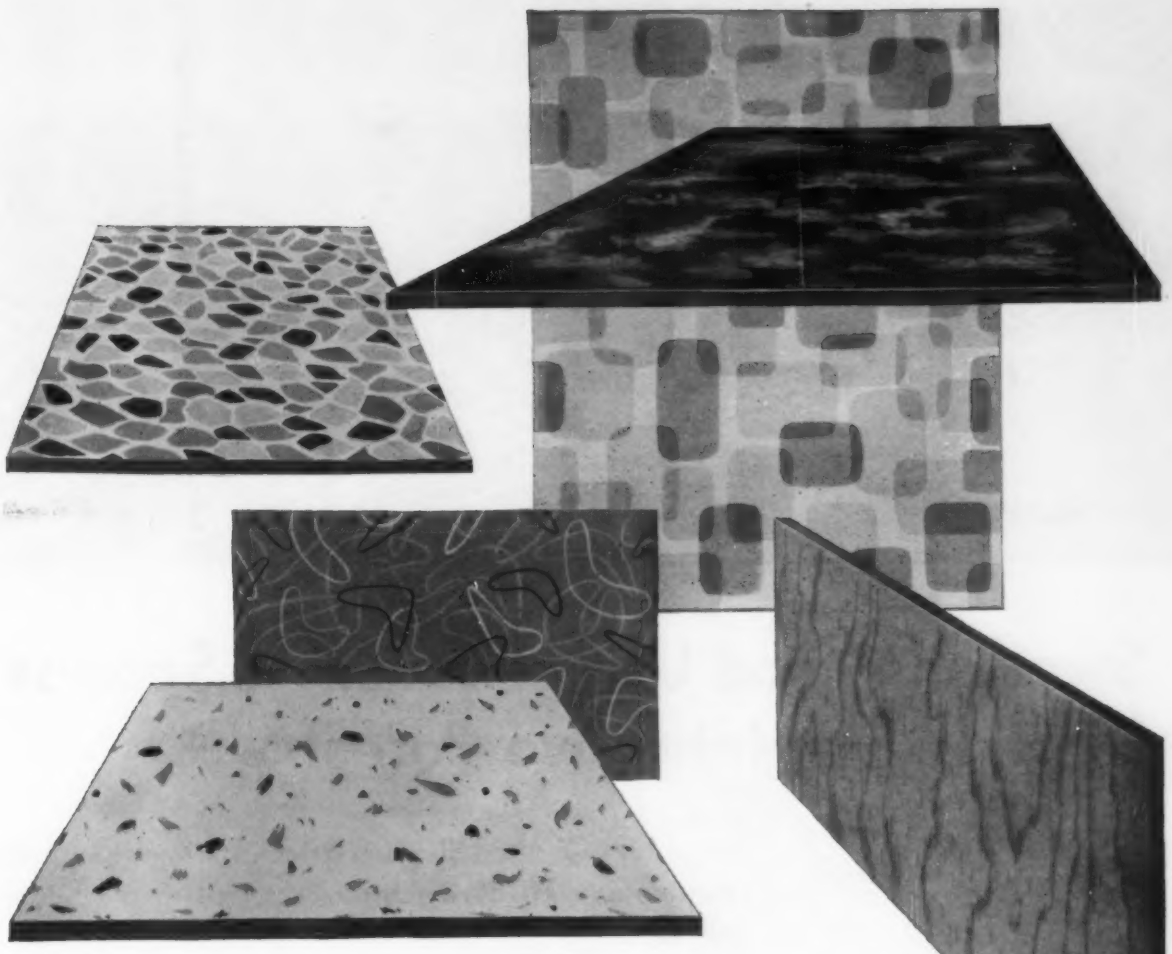
The operator sets the tension for the particular requirements of the roll and the machine automatically maintains that tension regardless of diminishing roll diameter or speed.

Roll Oscillation

To eliminate high caliper buildup or corrugations from the parent roll, lateral oscillation up to six inches can be applied to the parent roll and adjusted while the machine is running for speed of oscillation or length of stroke.

With a view to future needs, the backstand is built to be provided with side register control, either pneumatic or by electric eye. This feature automatically aligns the parent roll with the winder throughout the unwinding operation. By automatically shifting the unwinding roll to compensate for telescoping or runout edges, it helps insure exactly square-edged rewound rolls.

This installation as a complete Langston unit—backstand, winder and roll drop—has been engineered to integrate every detail for production of quality winding and slitting, for reduction of operator labor and downtime through automatic roll handling and control devices and for increase of production of shipping-quality rolls.



CONTROLLED ABSORBENCY FOR LAMINATE DECORATIVE SHEETS WITH SOLKA® PULP

Manufacturers of decorative sheets for high pressure laminates find Solka Pulp ideal for the purpose. Paper made from these specially blended Solka fibres has an excellent printing surface and high dimensional stability. And of utmost importance, this paper has a uniform absorbency rate and capacity for saturants.

In addition to the standard grades, Solka Pulps can be tailor-made to give specific properties to papers designed for particular applications.

Brown Company's sixty years of pulp making experience is backed by top-flight research and technical personnel. This, plus modern manufacturing facilities, can help you in solving your problems. Write our Boston office today. Address Department PB-8.

Another Quality Product of BROWN COMPANY

150 Causeway Street, Boston 14, Mass.
Mills: Berlin and Gorham, New Hampshire

iron and steel industry.

set up, and others soon followed to

and spruce are the principal species

Swedish Wood Using Industries Success Depends on Intensive Forestry

The editor reports on his observations of Swedish forestry practices as seen during his recent visit to the Nordic countries.

John C. W. Evans,
Editor,
Paper Trade Journal

During the writer's recent European tour, he had an opportunity to inspect Swedish forestry practices as exemplified by Stora Kopparberg A.B. These observations are particularly timely since for the first time a Swedish company will be associated with the management of a forest on this continent. We refer to the new pulp company, Nova Scotia Pulp Ltd., an affiliate of Stora which is now building a bleached sulphite market pulp mill in Eastern Canada.

Early Interest in Forestry

Since the beginning of Stora's mining operations in the 12th century, the Great Copper Mine at Falun was the principal user of wood in the area. Large quantities of wood were used for the firesettings which helped break off the rock (copper ore) in the mine and as well as for building material in and around the mine. The numerous smelting huts in the vicinity of the copper mine which were used to treat the ore also consumed considerable quantities of wood and charcoal.

In the first part of the 17th century, the mine reached its peak production and it was no longer possible to provide for the greatly growing demand for timber from the neighboring forests. Exploitation of the forest resources on the upper reaches of Dalalven river, on which Falun is located, were begun. There is documentary evidence that regular logging was carried out on Dalalven as early as the beginning of the 17th century. Dalalven was the first Swedish river to be used regularly for river driving of timber.

The new need for timber at the mine resulted in a special administration for the provision of timber. In 1689 this administration was incorporated in the Stora Kopparberg Co. This marked the beginning of the company's present forestry organization. It was, however, not until the beginning of the 18th century that the company began acquiring its own forests. Previously it had been solely concerned with procurement and river driving. When the company, about 1780, started to be interested in iron, the forest holdings gradually increased as wood consumption was even greater than for copper. With the setting-up of new mines and plans and the purchase of existing iron industries in the beginning of the 19th century, very large forest areas came into the possession of the company. Prior to the middle of the 19th century when the Swedish sawmill industry began to be important timber users, the forests were utilized chiefly for the benefit of the

iron and steel industry.

Even in the 17th century Stora Kopparberg operated sawmills at Borlange on the river Dalalven and at Falun, but not until 1885 when the Skutskar sawmill was purchased, did the company's sawmill operations become of major importance. From that time the company's interest in wood utilization grew rapidly. The next step in Stora's wood utilization program was pulp and paper. As these have gradually expanded, extensive silvicultural work has been carried on to get their growing demands.

The company's forests covered 120,000 acres by the middle of the nineteenth century, for that time a remarkably large area, and by the beginning of this century the area had increased to nearly 570,000 acres.

In 1851 the company appointed its first forestry officer for the professional operations of its forests. During the latter part of the nineteenth century two more forestry officers were employed. In 1861 the first forestry district administration was set up, and others soon followed to set the pattern of the extensive operations of today.

Forests Today

Early in this century forest areas of exceptional quality and size were acquired by the company in connection with the purchase of old iron forges and industries in the lower reaches of the river Dalalven. In these forest areas also there had been at an early date considerable pioneer work in the field of forestry.

Today the productive forest area of Stora Kopparberg covers about 760,000 acres. Since the forests have been managed by professional foresters for a very long time, wood yield is large and the quality is good. Annual increment, which has been increased over the years, now exceeds one million cubic meters a year or about 400,000 cords. Growing stock is now more than 100 cubic meters per hectare (16 cords per acre*). Pine and spruce are the principal species (90 per cent). The hardwood remainder (10 per cent), is mostly birch.

*Assuming 0.392 cords per cubic meter of solid volume (90 solid cubic feet per cord).

Forest fires are seldom serious as a result of constant supervision by aircraft during the dry season (June—July). Forest inventories are carried out at regular intervals in order to study the distribution of species, age, annual increment, etc. Based on the results of the surveys, cutting plans are worked out for the following 10 years. For many years cutting was less than the annual increment, but since the growing stock reached a point of maximum increment, cutting has approached the annual increment rate.

Very large areas of swampy soil have been drained by ditching, which has had its expected result of a large increase of the productive area. In recent years large areas of stony and swampy farmland have been converted to forests.

Forestry Practices

Intensive forestry is practiced much more thoroughly in Sweden

Horses are still most economical for yarding and for short hauls.

Tractors are used chiefly on hauls of one to five miles.

Loading a truck trailer with special winch on engine unit.

Stora mixed forest of pine and spruce which is about 80 years old.

Long distance hauling with truck and trailer units.

An eight-year-old plantation of pine.

than on this continent. This is necessary because of the comparatively limited extent of their forests and the considerably slower rate of forest growth compared with much of this continent. The average time in all Sweden for a softwood tree to reach merchantable size is 100 years. This figure includes the extremely slow growth area in the far north. Another reason for more intensive forestry in Sweden is that it has been practiced there as a science much longer than on this continent.

These practices in cutting include thinning, clear cutting, leaving of seed trees. All techniques to aid regeneration, depending on local conditions, are utilized by Stora such as: seed trees, controlled burning, scarification, sowing and planting of small trees, as well as soil improvement by the drainage of extensive swampy areas. About one per cent of the forest land every year is clear-cut.

Every year about 800 hectares (about 2,000 acres) are seeded and about 1,700 hectares (4,200 acres) are hand planted. About 1,000 pounds of seeds and six million plants are required for this purpose. The company maintains two large nurseries where it produces the six million small trees planted each year. Extensive research is carried on in the nurseries and in the forest in order to develop premium seedlings which will produce faster growing trees with premium quality wood. This includes the production of superior trees by breeding as well as grafting from "plus" trees located in the woods. "Plus" is the name applied by the Swedes to superior trees which are found in the forest. Characteristics of these are narrow crown, square branch angle, slender branches, resistant to diseases and rapid growth. The company now has two seed plantations producing seeds which result in premium quality trees.

When the planted seedlings have reached a height of one to two meters (three to six feet), selective clearing is carried on as the first step. This includes removal of all superfluous, damaged, or poor plants. Only plants of the best quality (about 3,000 per hectare, equal to about 1,200 per acre) are left so that each plant can grow into merchantable dimensions. When the trees have reached usable size, the first thinning is done, about one third of the number of trees per unit of area being removed. The Swedish idea of what is usable size is much different from ours. Sticks down to one and a half inch diameter are used at the Stora Skutskar sulphite and kraft mills. Thinning is repeated at intervals of about 15 years until, at an approximate age of 100 years, the trees have reached a size when it is most economical to remove the remainder, excepting seed trees

While cutting is carried on throughout the year, hauling of the wood to truck roads and drivable waterways is done chiefly in autumn and winter, when the ground is frozen and covered with snow. Almost all cutters have their own gasoline powered saws and mechanical barking in the woods is now being done to considerable extent.

One of pulpwood cutters' home built with company help.

Transplanting spruce seedlings at one of Stora Kopparberg's two nurseries.

The editor; H. Lundberg, division forester; and P. Collin, manager of the Skutskar mill.

Wood Transportation

Horses are still largely used for short hauls of up to one or two kilometers (about half to a mile) but tractors are increasingly coming into use. Horses have been replaced by tractors or trucks on all hauls over two kilometers (one mile). On distances between two and ten kilometers (one to five miles) tractors predominate, but on longer distances trucks are more economical. In the last 15 years an extensive network of roads has been laid out in the company's forests. Each year about 50 kilometers (30 miles) of first-class truck roads are built, in addition short-distance secondary roads, usable only when the ground is frozen are built each year.

River driving is still the most economical means of wood transportation for long distances. On the river Dalalven, along which all of the company's plants are located, about 25 million logs are floated annually. About 60 per cent of the company's wood is brought to the mills on the river, the remainder is carried from nearby forests by truck or tractor.

Present Consumption

Production at Stora Kopparberg's wood using plants is at present:

25,000 standards of sawn lumber, about 50,000,000 board feet; 200,000 tons of newsprint; 77,000 tons of bleached kraft (Stora 32); 38,000 tons of bleached sulphite (Stora 59). *(These are all short tons.)*

Total annual wood consumption amounts to about 500,000 cords of barked wood. Twenty-seven million (57 per cent) cubic feet originate from the company's own forests and twenty-one million (43 per cent) are purchased from farmers, but some use is also made of government forests. The company's present expansion program will considerably enlarge wood requirements. The expansion involves doubling the output of bleached sulphite pulp at Skutskar, and a small increase in bleached kraft production there, and doubling of the semi-chemical birch pulp production used in newsprint at Kvarnsveden.

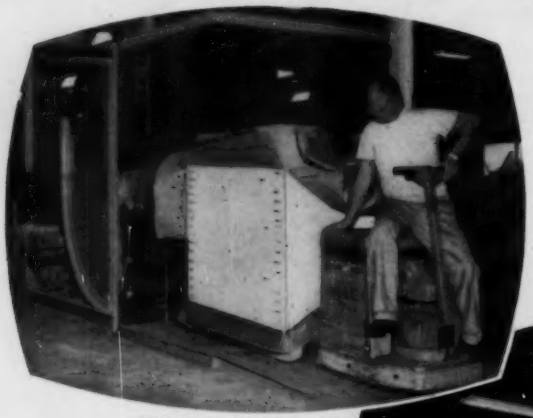
Woods Department Organization

Stora's organization forests are managed from the main forestry department at the company's head office in Falun. Under the head of this department there are eight forestry districts, each headed by a forestry district officer. Each district is subdivided into eight to ten areas supervised by a forest ranger. The district officers handle all the matters within their areas, such as felling, transport, forest protection, road construction, and the building of houses for workers.

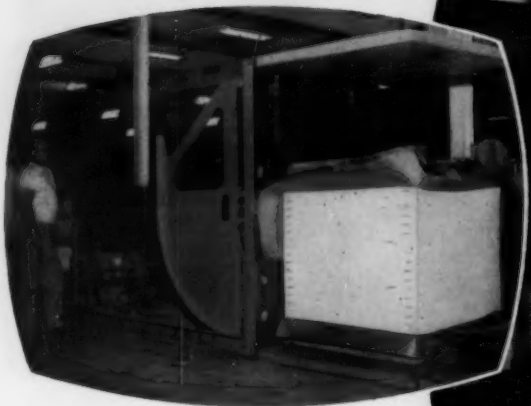
The average number of workers annually employed in Stora Kopparberg's forests is 2,500. While the cutters work the year round, haulers work chiefly in autumn and winter. During the summer, the haulers work on their own farms or on rented land.

Woods workers are given training in their trade at company operated schools. It encourages home settlements, and aids the workers in financing their own homes in order to maintain a staff of superior skilled workers.

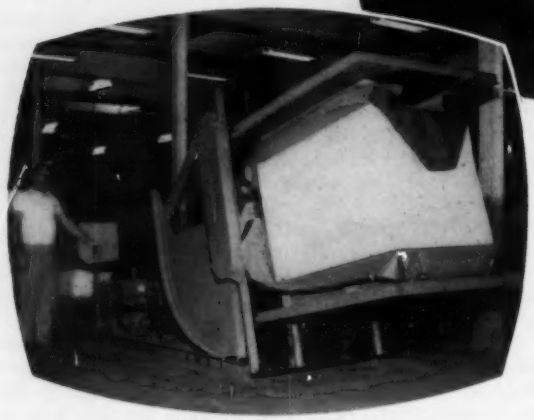
HOW THE SOUTHWORTH SKID TURNER *increased efficiency* AT CHILLICOTHE



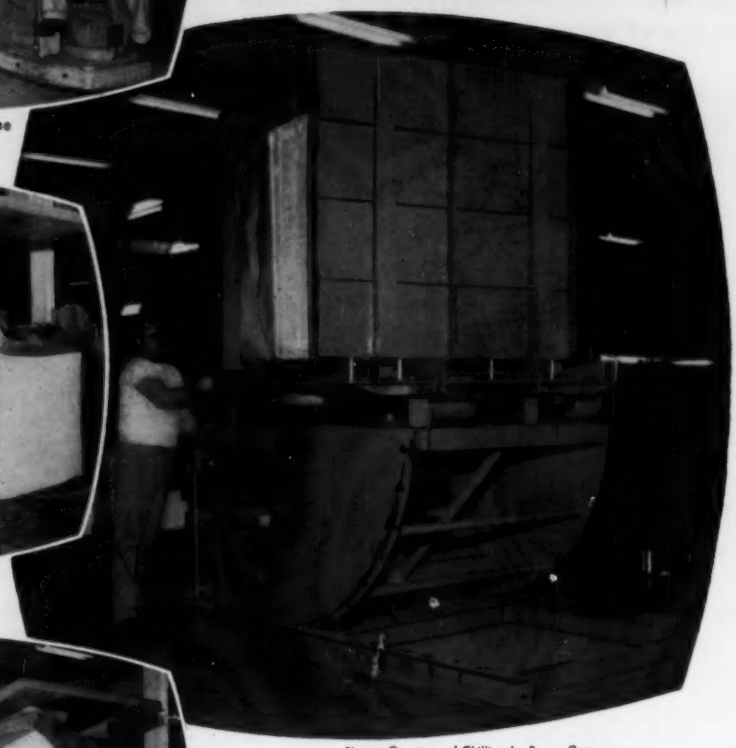
Skid is positioned on the skid turner.



Jaws start to close, clamp skid firmly.



Skid is lifted, revolved, reversed, and lowered.



Photos Courtesy of Chillicothe Paper Company

Chillicothe Paper Company found that hand-turning a skid of paper, ream-by-ream, was time consuming and expensive. Yet an accurate trim on papers embossed one side only was difficult unless the paper laid flat. The double problem no longer exists, however . . . thanks to the Southworth Skid Turner in its finishing department!

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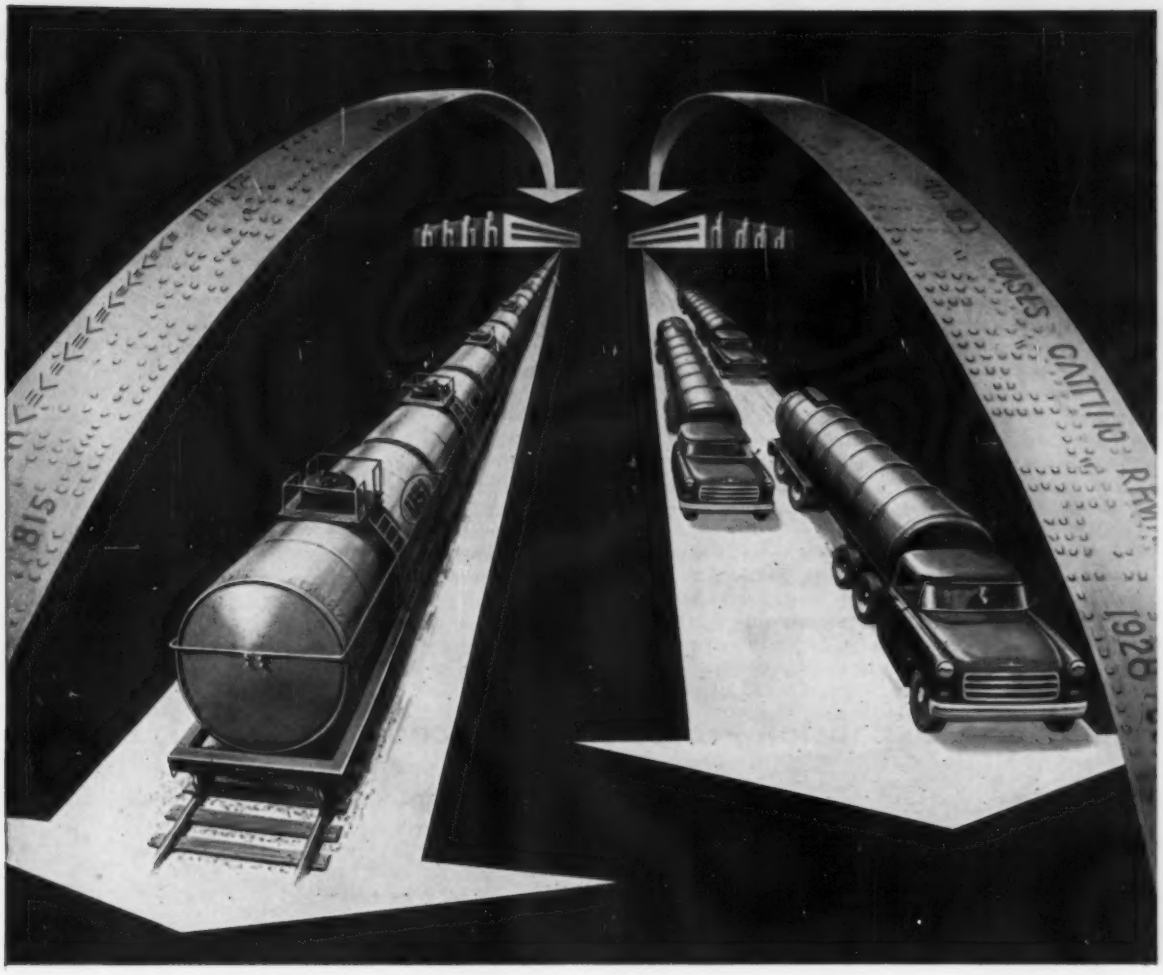

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Paper & Board Industry Booming Ahead

Paper and board have made a remarkable resurgence from the recession. As reported here last week, production in the first six months was 14 per cent above the same period last year and six per cent above the record high set in the first half of 1956.

Paper and board mills both ran at 95 per cent of capacity in the second quarter. Paperboard production in the first six months was 16.6 per cent ahead of the comparable period last year, with the second quarter nearly seven per cent higher than the first. Paper output was up 12 per cent for the first half compared with a year ago. Shipments of corrugated and solid fiber shipping containers in the first half of this year were 16 per cent higher. Folding box shipments were four per cent ahead and U. S. newsprint production was up 10.5 per cent for the six months.

The only segment of our industry which is not sharing in the boom is the market pulp mills. This has been due to excess capacity combined with declining exports and rising imports. The greatly increased activity has not been shared equally by all grades of paper and board. A few grades have been slow to join the upswing, but in the last few months almost all have joined the parade and the laggards are showing signs of catching up.

Evidence of the health and activity of our industry is shown in the 22 major new projects announced since the first of the year. These projects which are listed below represent about 300 million dollars in capital expenditures. More than half of these projects were announced in the last two months.

In addition to these we have shown on the following page 12 very large projects carried over from last year which are still not completed.

Also shown are seven projects about which there has been considerable discussion but on which no final decision has been made or construction begun.

Projections of capital expenditures by the pulp and paper industry made early this year by the U. S. Dept. of Commerce and others do not have much significance due to the many expansion decisions made recently or about to be announced. These make the earlier projections definitely on the low side.

Major U.S. Expansion Projects Announced Since Jan. 1, 1959

Company Name	Location	Nature of Program	Est. Completion Date
American Can Co. (Marathon Div.)	Naheola, Ala.	New paper machine to make bleached food board.	Feb. 1961
Bestwall Gypsum Co.	Pryor, Okla.	Extensive modernization and improvement program.	Late 1960
Byron Weston Co.	Dalton, Mass.	New 197 inch paper machine to make fine papers.	
Chesapeake Corp. of Virginia	Hopewell, Va.	$3 million expansion. General improvement an increased market pulp output.	1960
Fibreboard Paper Products Corp.	San Joaquin, Cal.	New 200 T/D kraft pulp and linerboard mill.	Mid 1960
Fraser Paper Ltd.	Madawaska, Me.	New paper machine to make 190 T/D of bond paper.	Early 1960
Georgia-Pacific Paper Co.	Toledo, Ore.	Double output of kraft pulp and linerboard mill with addition of new paper machine with capacity of 300 T/D.	Mid 1960
Georgia-Pacific Paper Co.	Samoa, Calif.	New kraft pulp and paper mill.	
International Paper Co.	Pine Bluff, Ark.	$13 million expansion includes new 209 inch machine to make 150/T/D light weight directory and groundwood printing grades.	January 1961
Longview Fibre Co.	Longview, Wash.	New paper machine to make toweling and lightweight kraft papers.	Spring 1960
Menasha Wooden Ware Corp.	North Bend, Ore.	New $5 million NSSC pulp and corrugating medium mill.	
National Gypsum Co.		Overall $125 million expansion program includes additional paper mills.	
Nekoosa Edwards Paper Co.	Nekoosa, Wis.	New paper machine to make 170 T/D fine papers.	Fall of 1960
Nicolet Paper Corp.	West De Pere, Wis.	$4 million paper mill expansion. New paper machine. Glassine papers.	January 1960.
Rome Kraft Co.	Rome, Ga.	Adding 500 T/D production to kraft pulp and containerboard output. New 254 inch paper machine.	Late 1961
St. Regis Paper Co.	Bucksport, Me.	$1.5 million modernization and expansion program.	

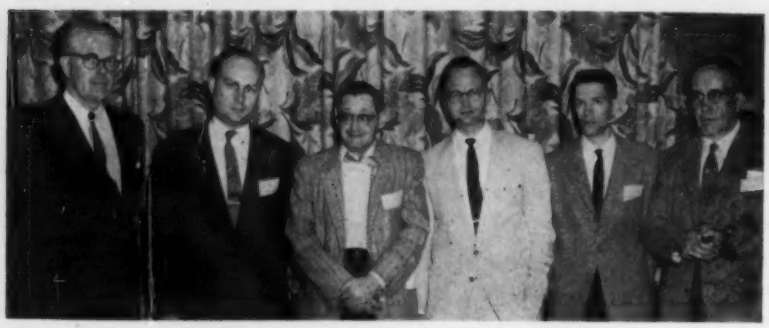
Company Name	Location	Nature of Program	Est. Completion Date
St. Regis Paper Co.	Deferiet, N. Y.	$2 million expansion and modernization program. Publication papers.	
St. Regis Paper Co.	Tacoma, Wash.	$30 million. Increase nearly doubling output in kraft pulp, paper and board production by 350 T/D. New 236 inch fourdrinier.	
Scott Paper Co.	Mobile, Ala.	$20 million. Pulp mill expansion and new paper machine to make 200 T/D white papers.	
Standard Packaging Corp.	Brewer, Me.	$2 million expansion in fine paper capacity.	
Tennessee River Pulp & Paper Co.	Counce, Tenn.	$30 million. New 500 T/D kraft pulp and liner board mill.	January 1961
Waldorf Paper Products Co.	Missoula, Mont.	Adding liner board machine to existing market pulp mill.	Late 1961

Earlier Major Projects for Completion Fall 1959 or Later

Company Name	Location	Nature of Program	Est. Completion Date
Alaska Lumber & Pulp Co.	Sitka, Alaska	New 350 ton dissolving pulp mill costing $55 million.	Late 1959
Bowaters Board Co.	Catawba, S. C.	New 500,000 sq. ft. per day hardboard mill.	Late 1959
Continental Can Co.	Augusta, Ga.	New $40 million 350 ton per day bleached kraft pulp and board mill.	Late 1960
Crossett Paper Mills	Crossett, Ark.	Improvement program to increase bleached board output by 50 tons per day.	Early 1960
Fox Paper Co.	Lockland, Ohio.	$7 million 5 year expansion program. Production increase 75 tons per day.	
Gulf States Paper Co.	Demopolis and Tuscaloosa, Ala.	$20 million expansion at both mills. First paper machine at Demopolis.	1962
Hammermill Paper Co.	Erie, Pa.	Major expansion of semi-chemical and sulphite pulp mills and finishing room.	Late 1959
Nekoosa Edwards Paper Co.	Potsdam, N. Y.	Rebuilt paper machine transferred from Nekoosa and new finishing room.	Fall 1959
Owens-Illinois (National Container)	Big Island, Va.	New large fourdrinier to make 265 T/D of containerboard.	September 1959
Oxford Paper Co.	Rumford, Maine	$15 million program includes new 175 T/D bleached softwood kraft pulp mill and increase hardwood kraft pulp by 100 T/D.	1961
Union Bag-Camp Corp.	Savannah, Ga.	New unbleached kraft paper machine 400 tons/day capacity.	January 1960
West Virginia Pulp & Paper Co.	Luke, Md.	$50 million expansion program. Includes two large printing paper machines, one to produce machine coated papers.	Mid 1960's

Projects Under Consideration – Not Final

Company Name	Location	Nature of Program
Champion Paper & Fibre Co.	Fairfield, Calif.	$30 million 300 T/D pulp and paper mill. Proposed name Shasta Pulp & Paper Co.
Crown Zellerbach Corp.	Colorado	Prospective newsprint mill for Western Colorado.
Crown Zellerbach Corp.	De Ridder, La.	Pulp and paper mill near De Ridder, La.
Powell River Co.	North Bend, Ore.	Market pulp mill at North Bend. Oregon.
Mount Tom Development Co.	Mount Tom, Mass.	Rebuilding of old Mount Tom (Mass.) sulphite mill to make NSSC pulp and corrugating medium.
Noralyn Paper Mills	West Baton Rouge, La.	Proposed newsprint mill using hardwoods near West Baton Rouge, La.
Potlatch Forest Industries	Arkansas	Proposed 300 T/D kraft pulp and board mill in Arkansas.



Technical Speakers—left to right: D. D. Hall, Eastern Div., Standard Packaging Corp.; R. C. Carpenter, Gould Paper Co.; C. T. Bockus, Eastern Div., Standard Packaging Corp.; L. E. Robinson, Oxford Paper Co.; N. L. Martin, Fraser Paper, Ltd.; W. F. Daniell, Great Northern Paper Co.

Technical Panel—left to right: A. W. Pinksham, Curtis Wright; D. D. Hall, Eastern Div., Standard Packaging Corp.; L. E. Robinson, Oxford Paper Co.; J. J. Thomas, S. D. Warren Co.; W. F. Daniell, Great Northern Paper Co.; N. L. Martin, Fraser Paper, Ltd.; R. C. Carpenter, Gould Paper Co.

Maine-New Hampshire TAPPI Men Hear Interesting Technical Papers

Over 225 delegates attended the spring meeting of the Maine-New Hampshire Section of TAPPI at the Hotel Samoset in Rockland, Me., June 12-13. During the meeting the following officers were elected: Chairman—Prof. A. J. Chase, University of Maine; Vice Chairman—C. T. Bockus, Eastern Corp.; Sec.-Treas.—H. E. Pratt, Pejepscot Paper Co.

Executive Committee:

One year—Edward N. Poor, Hudson Pulp & Paper Corp.; R. J. Martin, Fraser Paper Ltd.; B. A. Taylor, James A. Taylor & Son.

Two year—J. F. Wright, National Aniline Div.; P. M. Goodloe, Brown Co.; M. C. White, Oxford Paper Co.

Three year — Don Bail, Great Northern; R. E. Perry, Scott Paper Co.; L. R. Adkins, Waterfalls Tissue; H. W. Osgood, S. D. Warren Co.

Technical Papers

Prof. A. J. Chase, chairman of the section, opened the formal meeting, welcoming all delegates. He then turned the meeting over to C. T. Bockus, chairman of the technical session. The first paper, "Control of Wood Losses from Stump to Paper Mill," was presented by W. F. Daniell, Great Northern. Mr. Daniell outlined the sources of wood loss before trees are cut, during cutting, log driving, and wood preparation. Various methods of control currently employed were described and percentage losses were given for efficient operating conditions.

The second paper entitled, "Problems of Controlling Raw Material Losses in the Paper Mill," was presented by N. L. Martin, Fraser Paper Ltd. Various steps taken to control losses in the paper mill were described. Included was a discussion of fiber losses, control of titanium dioxide use, and a description of a titanium dioxide recovery system. Control of sizing and alum was described with comments concerning operating pH. Problems in the use of additives such as defoamers, slimicides, and pitch control chemicals were described.

The third paper "Control of Paper Machine Stock Losses," was presented by L. E. Robinson, Oxford Paper Co. The control of paper machine stock losses is an essential factor in the production of paper at minimum cost. An effective control program requires a monitoring of losses on a routine basis. Various methods for treating and measuring steady and intermittent losses were described.

The fourth paper entitled "Control of Production Losses in the Finishing Department of a Fine Paper Mill," was presented by D. D. Hall, Eastern Fine Paper & Pulp Div., Standard Packaging Corp. The causes for spoilage of paper from the time it is removed from the paper machine winder until it is loaded for shipment must be established. Production scheduling and planning of finishing operations are essential in holding production losses at a minimum. The importance of well-maintained equipment and of the human element were discussed.

The fifth paper "Perma Web—A Complete Wet End Break Control," was presented by R. C. Carpenter, Gould Paper Co. A discussion was held on the application of the Curtis Wright Perma Web on a paper ma-

chine. This instrument is a series of photo cells which detect breaks and actuate water jets to restore the web. Recent trials have indicated that the apparatus is capable of arresting and restoring about 90 per cent of the wet end breaks.

Industrial Engineering Program

The Industrial Engineering and Material Handling Program was under the direction of M. C. White, Oxford Paper Co. The first paper "Southworth Lift Table System of Trimmer Operation," was presented by Leslie Pearson, Southworth Machine Co. Movies of the equipment were shown and discussed The equipment is reducing the shrinkage and increasing trimmer production by putting paper where it belongs at the right time and with a minimum of effort.

The second paper "An Incentive Payment Plan for Paper Machines," was presented by E. Christensen, S. D. Warren Co. The paper machine incentive plan is designed to provide ample earning opportunity in return for increased production of better quality paper. An outline was given of the factors involved in establishing incentive rates and methods used to adjust the rates to varying conditions of operation.

The third paper "LP Gas as a Fuel for Material Handling Equipment," was presented by E. B. Denton, Keyes Fibre Co. Some of the advantages of LP Gas (propane, butane, or a mixture) for lift truck operation were given as; (1) Possible fuel saving for large operation; (2) Low maintenance costs; (3) Reduction in exhaust odors.

The fourth paper "Handling Paper Mill Materials with Lift Trucks," was presented by Sumner Bryant, Field Machinery Co. A film was shown on Hyster trucks entitled "Handling Newsprint Aboard Ship." Action shots of the Hyster 30 lift truck were shown. Advantages of the Hyster truck were given as: reduced damage to rolls, tighter storage. A discussion was given on the new cascade clamp and the Monotrol lift truck, newest of the Hyster line.

On Friday evening a banquet was held and Eugene N. Clapp, president of Penobscot Chemical Fibre Co., gave a very interesting and pertinent address. He stated that to protect our American free enterprise system and the freedoms we now enjoy, businessmen must take a more active part in our everchanging political system. If business people sit idly and watch our basic freedoms being chipped away little by little by those who would impose another economic system, the strong trend towards socialism will not be stopped but will accelerate in a geometrical progression.

Industrial Engineering Panel—left to right: E. B. Denton, Keyes Fibre Co.; M. C. White, Oxford Paper Co.; S. Bryant, Field Machinery Co.; L. Pearson, Southworth Machine Co.

Panel Discussions

On Saturday morning panel discussions were held by the two groups —technical under direction of J. J. Thomas, S. D. Warren Co.; industrial engineering directed by M. C. White, Oxford Paper Co.

In a technical session, the Friday afternoon speakers gave a summary of their papers. A lively discussion followed on wood handling, wood yields, fiber losses, sewer samplers, such as Parshall flumes, DeZurik, vacuum operated and paddlewheel types. The Perma Web was discussed at length in addition to electronic instruments for detecting sheet defects. Experiences were given on the use of retention aids such as Separan, in white water recovery.

In the industrial engineering panel, further details were given on the incentive plan at S. D. Warren which has been in operation for four months. The reaction to the plan by the employees has been good. There was a discussion on lift trucks, capacity, floor requirements, use of blinkers, and LP Gas vs. gasoline.

OBITUARIES

L. A. Straubel, Sr., 93, founder of the Straubel Paper Co., Green Bay, Wis., died July 12 at his home after a short illness.

Mr. Straubel founded the Straubel Machine Co. in 1893. Working from Mr. Straubel's own designs, the company became a leader in the manufacture of high speed paper machinery. The machine company became the Straubel Paper Co. in 1925 because the firm began concentrating on the manufacture of paper products. Mr. Straubel remained as president until his retirement in 1952.

Richard H. Kley, 45, died at his home in Chester, Pa., July 16. Mr. Kley was a staff engineer for the Scott Paper Co. for the past 18 years.

Joseph J. Murphy, former superintendent of the converting plant of Simpson Paper Co., Everett, Wash., died in a Seattle hospital after a sudden illness.

Mr. Murphy came to Everett in 1933 as superintendent of the converting plant of Everett Pulp and Paper Co. He retired from Simpson Paper Co. Jan. 1, 1959, but soon afterward went to Los Angeles to install and start the new converting plant there.

Fred J. Weleber, 51, died at his home in Oregon City, Ore., July 15. Mr. Weleber joined Publishers Paper Co. in 1927 as a chemist in the laboratory at Publishers Oregon City mill and later became chief chemist. In 1957 he became assistant mill manager.

Joseph A. Warren, 88, chief research engineer for the S. D. Warren Co., died suddenly July 21 at his home in Westbrook, Me.

Mr. Warren was the last member of the Warren family to be associated with the company.

He served as manager of the Cumberland mills and in Gardiner for 25 years and was also vice president and director of research.

Andrew J. Weir, 82, retired sulphite superintendent at the Wausau Paper Mills, Wausau, Wis., died July 21.

Cleaning Paper Machine Felts

Part III: Practical Cleaning Techniques

Ralph H. Beaumont, Jr.,
Director of Chemical Research,

James L. Hanchette,
Manager, Customer Service Laboratory,

Huyck Felt Co. Division, F. D. Huyck and Sons,
Rensselaer, N. Y.

In the first two parts of this series, the basic principles of felt cleaning were outlined. (See Paper Trade Journal issues of March 16, 1959, and June 1, 1959.) Attention was directed in the first paper to the function of detergents and builders. In the second, the necessary cleaning agents for specific plugging problems were discussed. This, the third and final part, considers some of the more practical aspects of felt cleaning. These include common methods of applying chemical washing solutions and typical formulations.

Attention is focused on chemical rather than mechanical cleaning as the latter is discussed in a recent Bulletin.* Also, while methods for obtaining maximum sheet retention of plugging materials are important, only cleaning techniques will be discussed here for the sake of brevity.

Washing Methods

Three general methods of washing felts which are now being used in the paper industry are:

1. while the machine is in operation
2. during shutdown
3. off the machine in a washer.

Each of these methods has definite advantages for any given set of conditions. While the second method is probably most commonly used, the others are extremely important where applicable. Hence, each will be given equal consideration.

Continuous Cleaning

GENERAL

Washing while the machine is in operation or "continuous cleaning", as it is popularly called, has been one of the most discussed subjects in recent seminars. Without question it is the most economical method as it eliminates shutdown. In addition, it maintains the felt in the most consistent condition and should lead to most satisfactory performance.

EQUIPMENT

The one piece of apparatus usually needed to convert available equipment for continuous cleaning is a metering device for the chemical mixture. A simple proportioning pump is most frequently adapted for this purpose but depending upon the type of

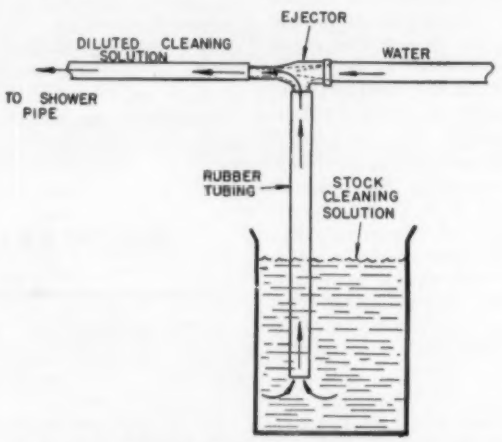


Figure 1—Suggested method for applying cleaning solution through a low pressure system.

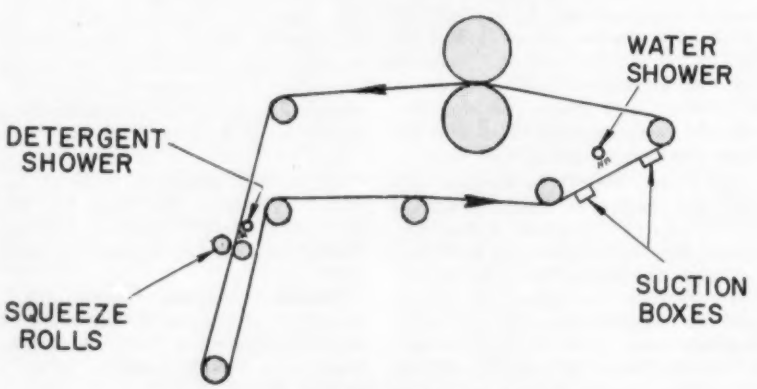


Figure 2—Ideal continuous cleaning setup.

*John C. Spicer, "Mechanical Methods of Felt Cleaning," Huyck Felt Bulletin, Vol. II, No. 12, Huyck Felt Co., Rensselaer, N. Y.

showers available, a number of devices may be used.

High pressure showers, of course, require a high pressure pump. In some low pressure installations a simple pipe with drilled holes does a most satisfactory job. Here, simply by inserting an ejector into the line, as shown in Figure 1, the solution can be introduced either continuously or at intervals.

The ideal installation for continuous cleaning calls for the detergent shower to be followed by a squeeze roll, a suction box, a water shower and another suction box with the effluent from the boxes preferably going to the sewer. With this arrangement, as shown in Figure 2, the squeeze rolls afford good agitation of the felt, the first suction box removes most of the detergent and plugging material from the sheet side of the felt while the shower and second suction box rinse the felt completely.

Most installations aren't this complete and many function adequately with just a single shower and suction box combination.

FORMULATIONS

As explained in the previous paper of this series, the type of cleaning mixture to be added continuously is dependent upon the plugging material and other conditions. For continuous cleaning, however, the tendency is to keep the solution as simple and dilute as possible. While increased temperature favors cleaning effectiveness, the economics of treating the necessary large volumes of water must be justified by the washing results obtained.

The stock solutions listed in Table I should be diluted through a proportioning pump (or the ejector system shown in Figure 1.) so that a 0.01 per cent to 0.05 per cent concentration will reach the felt. In each case this requires diluting 1 part of the stock solution with 99 parts of water. The solutions should then be continuously or intermittenly showered onto the felt at a rate of from 4 to 8 gallons per minute per 100 inches of felt width.

TABLE I
STOCK SOLUTIONS FOR CONTINUOUS CLEANING

Type	Water	Chemical
Neutral	50 gals.	2.5 gals. non-ionic detergent*
Alkaline	50 gals.	20 lbs. soda ash
Acidic	50 gals.	2.5 gals, acetic acid or 20 lbs. sulfamic acid
Solvent	50 gals.	2.5 gals. o-dichlorobenzene + 2.5 gals. emulsifier*

* The following list includes several of the numerous non-ionic detergents that have gained acceptance in the paper industry for both detergent and emulsification properties.

Igepal CO-630	General Dyestuff Corp.
Kyro E.O.	Procter & Gamble
Syntergent 25	Nopco Chemical Co.
Triton X-100	Rohm & Haas Co.

Shutdown Cleaning

GENERAL

This is unquestionably the most common method of felt washing used today. It has the advantage of allowing the use of strong cleaning solutions for short periods of time without removing the felt from the machine. Also, this method makes use of available squeeze rolls and other auxiliary equipment.

It should be considered that there are many papers which cannot tolerate even traces of cleaning materials. Thus, if chemical cleaning is to be used, the stock flow must be stopped. There are likewise a number of positions where shutdown felt cleaning serves the auxiliary purpose of cleaning cylinder molds, pipe lines and other equipment.

The big disadvantage of this cleaning method is that it requires the machine to be shut down. Also, depending upon the frequency and severity of washing, felt openness and cleanliness is constantly changing so that optimum felt performance requires continuous adjustment of the machine.

METHODS OF APPLICATION

The equipment necessary for shutdown cleaning as noted above, is a minor consideration. Most frequently the cleaning mixture is mixed in a drum and thrown on the felt by the bucketful with suction boxes, conditioners and showers shut off. The felt is then run around the machine until a dense suds develops. Whether it is roped or not seems to be primarily personal preference. It is then rinsed thoroughly (rewashed and rerinsed, if required) and started up. Total time required is usually about 20 to 30 minutes.

Some mills use a hose to apply the washing solution while on other machines the chemical materials are added through a shower pipe just as they would be if continuous cleaning were used. The ejector arrangement shown in Figure 1 can be used with either method.

Other conditions also vary with convenience. Though a washing temperature of 120°F. is usually aimed for, it may be difficult to obtain. Where hot water or steam is available, it is best to prepare a solution of about 140°F. to compensate for cooling and dilution upon application. Too high a temperature may narrow an untreated felt, particularly if it is roped while washing. It may also cause chemical damage if the cleaning solution is highly acidic or alkaline.

Roll pressure should be moderate. Excessive pressure leads to felt narrowing or undesirable wrinkles while too low a pressure fails to give the squeeze action and agitation necessary for good washing.

FORMULATIONS

Cleaning formulations outlined in the previous paper were developed principally with shutdown cleaning as the objective. Representative formulae are as follows:

A. Acidic solutions for removing alum, rosin size, calcium carbonate and other fillers—

Mix 2.5 gallons of commercial muriatic acid and 1 pint of detergent with 50 gallons of water for each 100 lbs. of felt. If possible heat and apply so that the felt is washed at a temperature of 120°F. for 5—10 minutes. Then rinse with warm water for another 5—10 minutes. This procedure should be used as needed, approximately once per day in early felt life or once per shift later on.

B. Alkaline solutions for removing pitch, rosin and other acidic materials—Mix 8 lbs. of sodium carbonate (soda ash) or tetra-sodium pyrophosphate ($Na_4P_2O_7$) and 2 pints of detergent with 50 gals. of water for each 100 lbs. of felt. Special care should be taken with this formulation that it is thoroughly mixed before application. As above, apply at a temperature of 120°F. for 5—10 minutes and follow with a 5—10 minute rinse. The frequency of this

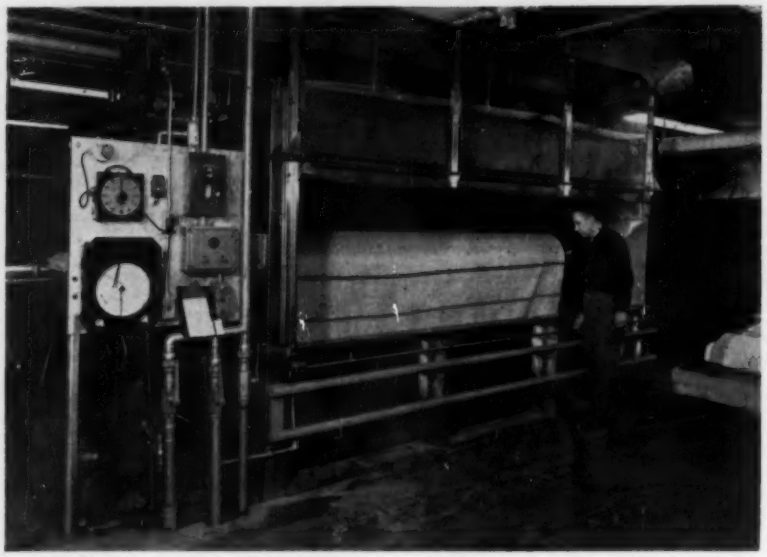


Figure 3—
Typical manufacturer's felt washer.

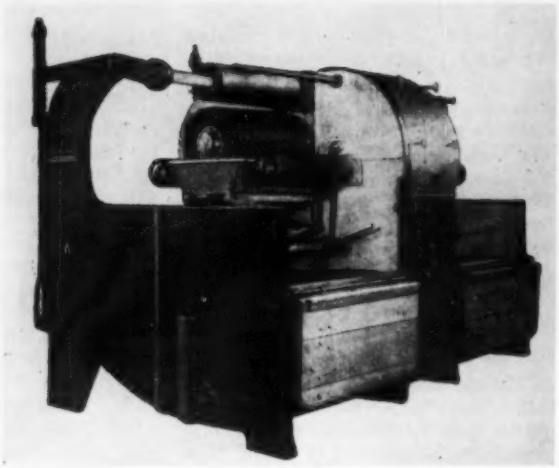


Figure 4—
Washing machine supplied to paper mills in Germany.

wash is best established by mill experience.

C. Combination wash for optimum removal of rosin size, fillers, and general cleaning—

Follow "A" with "B" above.

D. Solvent for removing latex, asphalt, pitch and organic materials—

Mix 5 gals. of ortho-dichlorobenzene or xylene with 4 pints of emulsifier*. When this is well mixed add it to 45 gals. water. Use this volume of mixture for each 100 lbs. of felt. Agitate thoroughly to form a good emulsion and apply to felt at a temperature of 120°F. Allow 10 to 15 minutes for complete saturation then rinse thoroughly (with hot water if possible). This formulation is not inexpensive, so the frequency of use is best dictated by the severity of felt plugging encountered. For optimum results a second wash with "B" above is sometimes needed.

* In addition to the products previously mentioned, Atlas G-1256 from Atlas Powder Co. gives particularly good emulsification for this application.

Off-Machine Washing

GENERAL

During manufacture or refinishing, felts are washed in machines similar to that pictured in Figure 3. The washer shown in Figure 4 is one which German paper mills use to wash felts. Several mills in this country also have these washers, either wooden or stainless steel, which are specifically designed for this purpose.

The principal value of off machine washing is to dislodge plugging materials which cannot be removed by simple shutdown cleaning. Time cycles, chemicals and temperature control which are impossible to achieve on the paper machine are allowable with separate equipment.

FORMULATIONS

The cleaning mixtures for off-machine washing are mostly similar to those used for shutdown applications. Some of those listed below, such as that for removing melamine resin, would be of little value other than in a washer.

A. For removal of melamine resin—

In washer, mix 1 gal. phosphoric acid and 10 lbs. urea with 50 gals. water for each 25 lbs. of felt to be washed and heat solution to 185°F. Make sure solution is thoroughly mixed and heated before adding felt to washer. Place felt in washer and wash for 15 minutes. Follow with 5 minute spray rinse and 1 flood rinse, both with warm water. Remove felt from washer and dry.

B. For removal of latex precipitated with alum—

Mix 10 gallons of xylene with 4 pints of emulsifier. Mix 1.5 gals. of commercial muriatic acid with 40 gallons of water. By combining these two solutions with thorough agitation the resultant washing solution should service 100 lbs. of felt. Heat solution to 120°F., place felt in washer and wash for 15 minutes. Follow with a spray rinse and one flood rinse, both with 120°F water. If felt still feels tacky or plugged, remove felt and recharge washer with 50 gals. water, 8 lbs. soda ash and 1 pint detergent for each 100 lbs. of felt. Wash for 5 minutes at 120°F., drain, and spray rinse for 5 minutes. Remove felt from washer and dry.

Summary

The "how" of chemically cleaning paper machine felts has been outlined. Washing methods, methods of cleaning solution application and typical formulations have been described. Thus, with this paper, the what, when and how of chemistry cleaning felts have been covered.

However, it cannot be emphasized too strongly that generalizations do not apply well in this field. Formulations must be developed for specific situations and must be modified when the situation changes. It should be remembered that the laboratories of leading felt manufacturers and cleaning mixture suppliers are equipped to analyze your requirements individually and to recommend washing formulations custom designed for individual needs.

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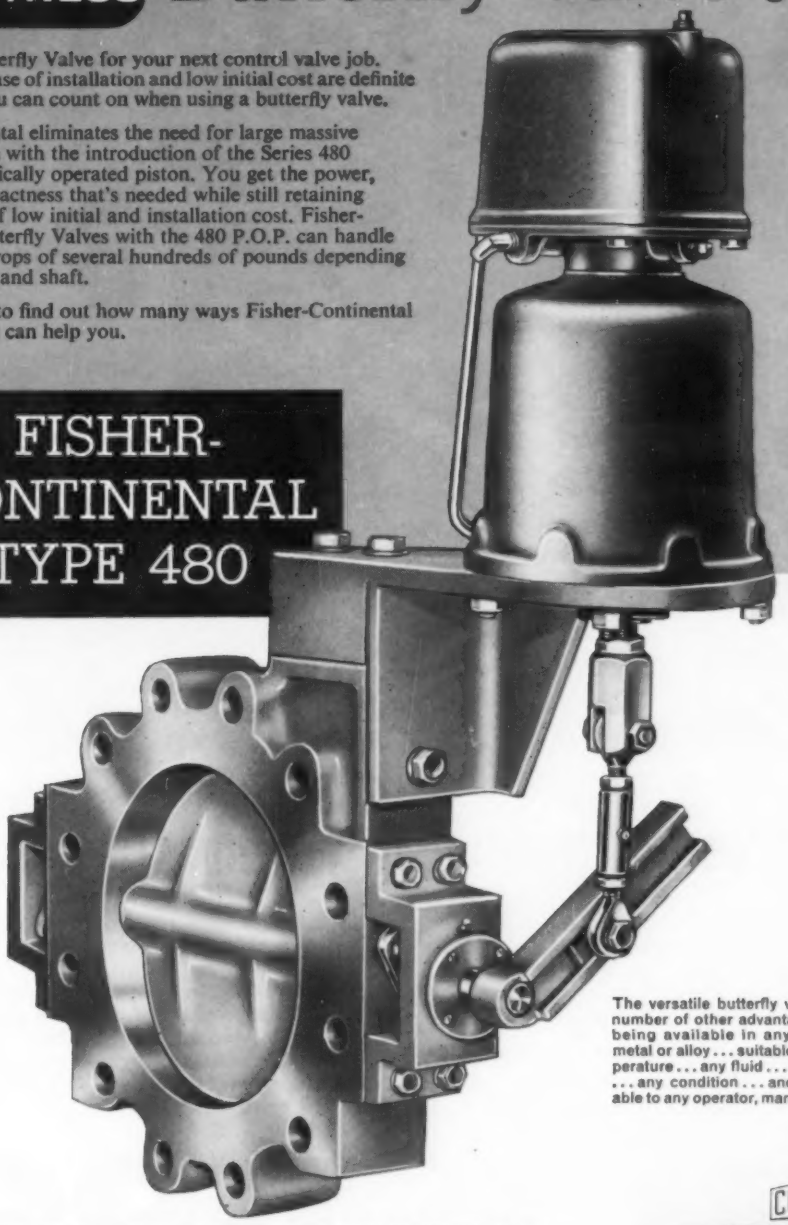

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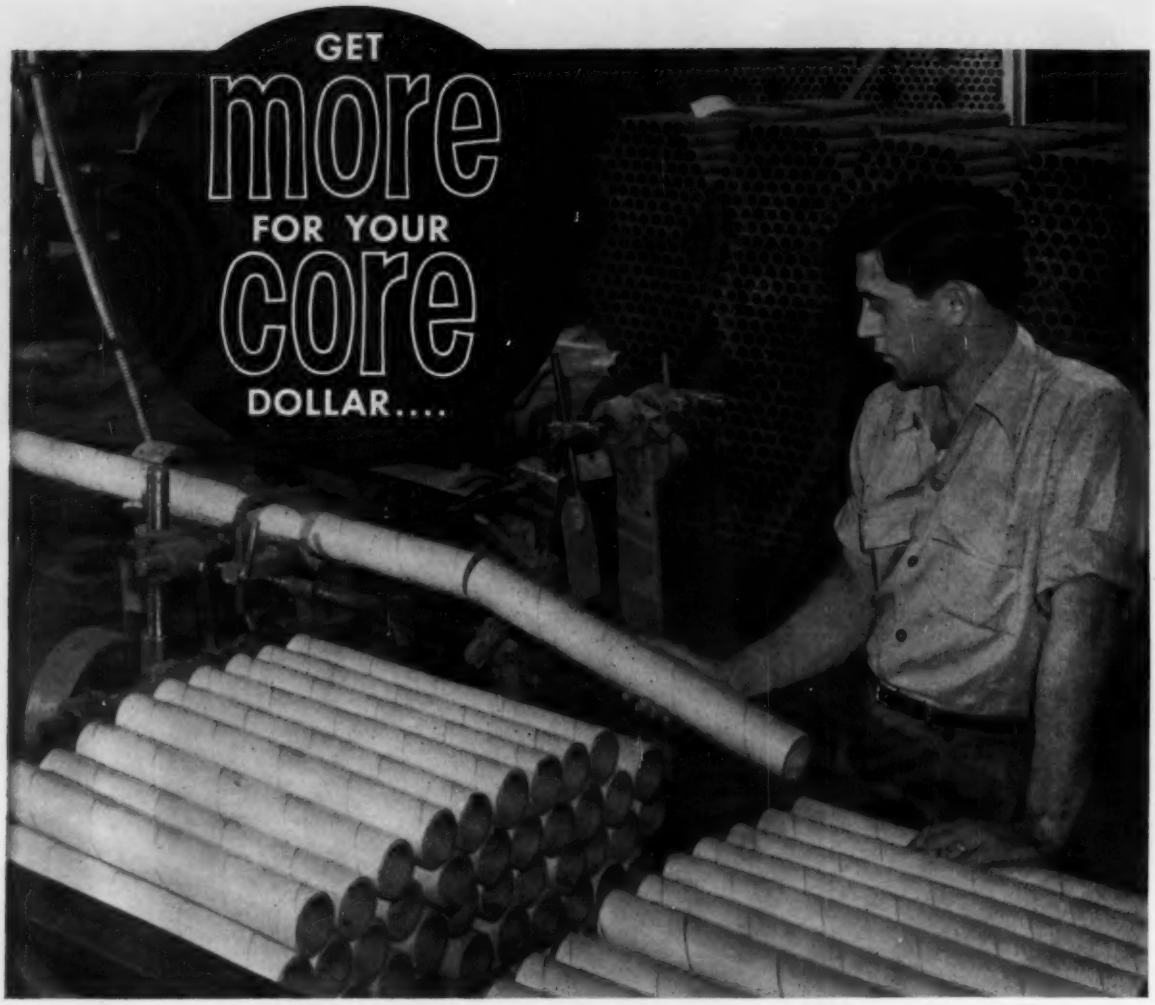

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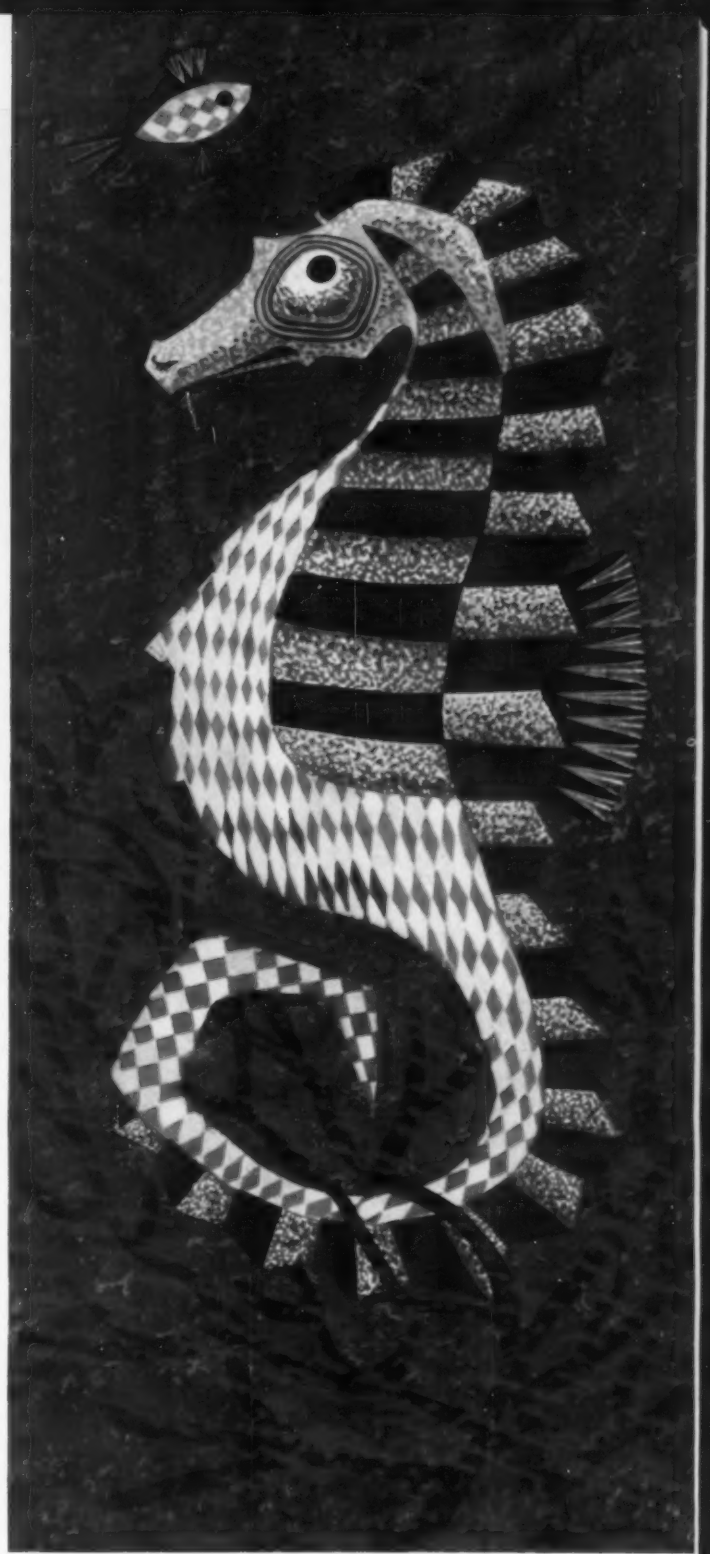

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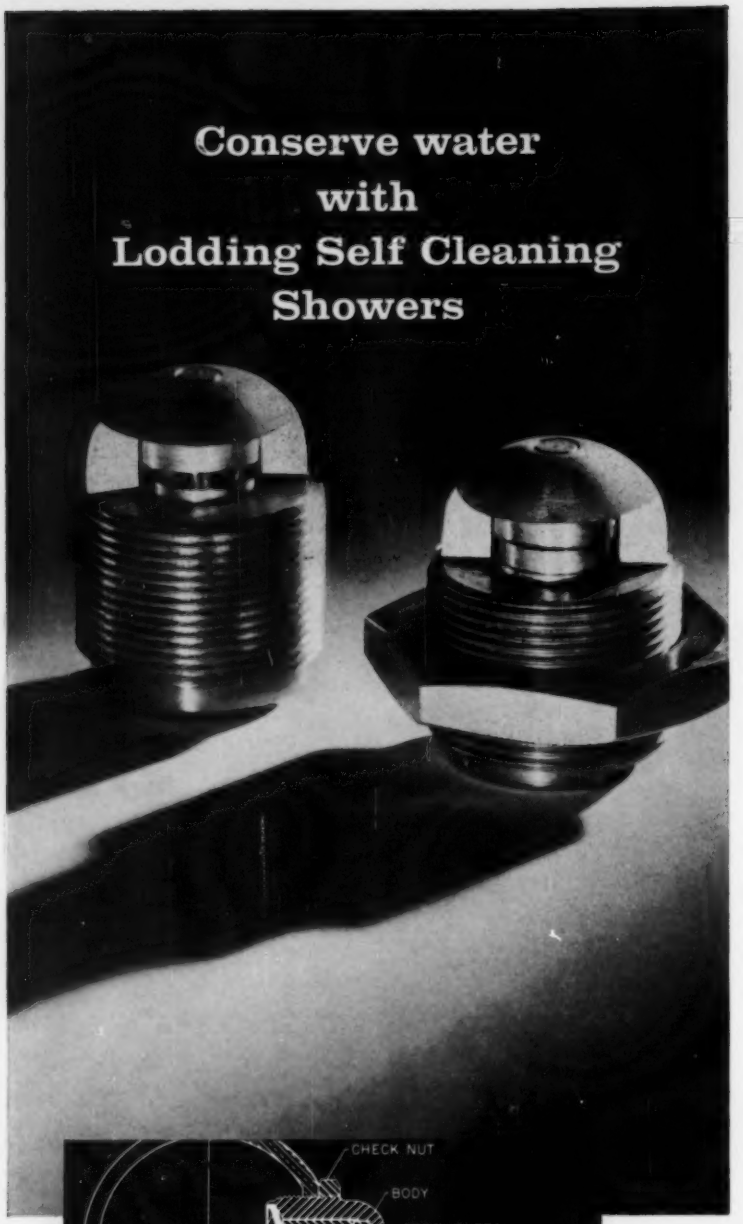

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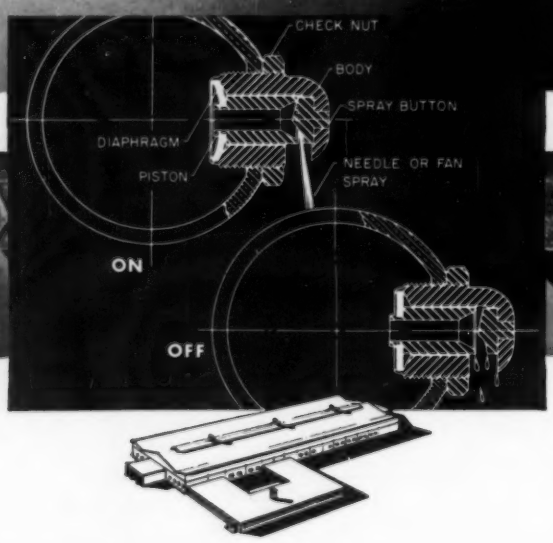

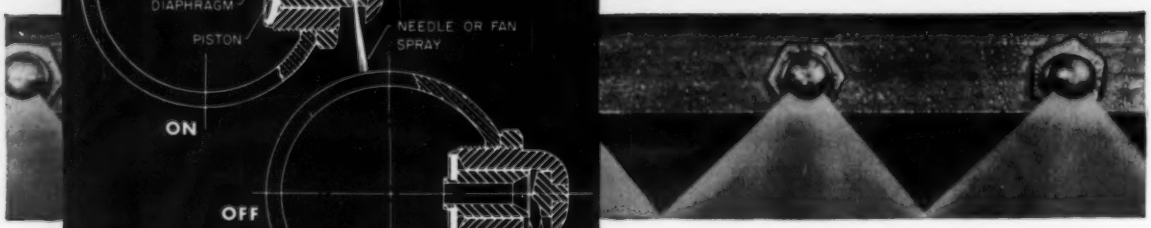

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Modern Methods and New Mills Boost Formosan Paper Industry

Here is an up-to-date report on new paper mills and improvements to existing mills since WW II on this Nationalist Chinese island.

It might seem just as absurd for the Americans to advise the Chinese on papermaking as it would for them to advise the French on winemaking, but this ancient Chinese skill has been able to absorb the fine points of 20th-century technology from U. S. papermaking experts on Taiwan.

Acting as consultant to the paper industry here is Karl W. Fries of Rhinelander, Wis., who is one of a group of experts in various fields employed by the J. G. White Engineering Corp. of New York. This firm acts as overall advisor to the Nationalist Chinese government.

Dr. Fries travels up and down the length of this 250-mile-long island and in his work has come to learn both the Chinese language and the Chinese viewpoint. His function is to advise the Taiwan papermakers on engineering and production methods. "Because Formosa's papermaking industry is small-scale by U. S. standards, and also because it is somewhat dependent on American aid funds, we stick to established papermaking processes, do very little experimenting," Dr. Fries asserts.

Low Paper Consumption

At present there are about 50 paper mills on Taiwan, with an annual production of 100,000 short tons of paper. Per capita paper consumption is only 24 pounds annually, compared with 69 pounds in Japan and 405 pounds in the U. S. But paper consumption is going up on Taiwan, and the government believes that this industry offers a particularly good field for foreign investors.

In addition, some 25,000 tons of pulp are produced each year. Both pulp and paper production stand now very close to domestic demand—further expansion will enable Taiwan to sell pulp and paper products to the arising lands of free east Asia.

Taiwan now produces chemical wood pulp, bleached bagasse pulp, ground wood pulp, newsprint, tissue paper, bond paper, drawing paper, cigarette paper, manifold, MG sulphite paper, Chinese art paper, straw board, white board, and kraft.

Japs Built Several Mills

The Japanese seized this island from China in 1895, relinquished it at the end of World War II. There was papermaking on Formosa, however, even before the Japanese take-over, small mills using only cylinder machines. Raw materials were mainly straw, mountain grass, and bamboo. The papers produced were coarse writing and printing papers, plus some special paper for religious scrolls.

The Japanese themselves set up six mills with more modern equipment, one of them a board mill at Shihlin with two machines, one for strawboard, the other for better grades of board for shoeboxes and railroad tickets. By 1945 there were four mills manufacturing higher grade writing and printing papers, cigarette papers, and wrapping papers, using both stationary and rotary digesters. In addition, the Japanese built the pulp mill at Hsinying, which uses bagasse as raw material, produces about 80 tons daily from its stationary vertical digesters of Japanese manufacture.

Still in operation at the other mills taken from the Japanese are such items of equipment as Hollander beaters and refiners, old fourdrinier pulp-drying machines with machine stacks, and old-style winders, rewinders, and machine cutters, bought second-hand from U. S. and Japanese manufacturers.

While dollar estimates are dangerous to make in these times of shifting currency values and varying modes of appraising construction and equipment, it is safe to say that the paper industry on Formosa has more than doubled in real value since the Chinese take-over of the island in 1945. The real total value then was about $10 million; today, everything considered, it is more than $20 million.

Modernization of Old Mills

Since the forced departure of the Japanese in 1945, the Nationalist Chinese have been building new mills and modernizing the old ones. The Hsinying pulp mill was converted from a neutral sodium sulphite mill without chemical recovery to a kraft pulp mill with chemical recovery, thus substantially lowering manufacturing costs. This factory now produces more than 20,000 tons of bagasse pulp every year. This represents one of the world's first attempts at large-scale utilization of bagasse as a raw material to make paper pulp. Production goal is 24,000 tons of pulp and 12,000 tons of paper annually, double the present output. New investment, approximately $4 million, will be required to bring this about.

At Lotung, the old mill has received modern high-speed paper machinery with some new stock preparation equipment bought from Japan. A jordan, from E. D. Jones a condensation system by Seneder, and a lubrication system are some of the new machinery added in recent years.

A story in itself is the logging operation necessary to bring the basic raw material to the mill. High above the Lotung plant, which is itself at sea level, the great forested mountains of Taiwan rise. These tree-matted, snow-covered peaks cover nearly 70 per cent of the island's surface. From heights of 6,000 and 7,000 feet the felled timber is run down the mountains on cable cars, the sole transport for man, beast, and supplies in either direction. Of the 8,000 workers in the island's logging industry, some 2,000 are employed right here at Taipingshan, conveniently located due *up* from the Lotung paper mill!

New Mills Since WW II

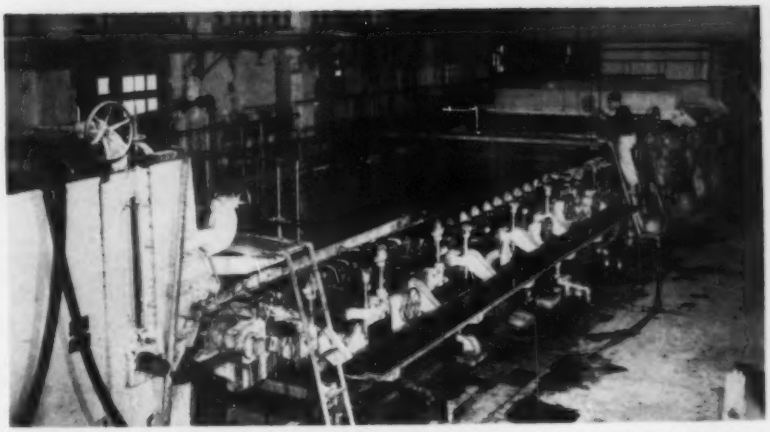
Among the new paper mills erected since the war is the Longlived Pulp & Paper Corp. which manufactures fine paper, such as tissue paper and fine writing papers, using bamboo as raw material. Its capacity is 20 tons daily. Pulp is made by the kraft process with chemical recovery, using equipment of the most modern type. The paper machine drive is all electric. (A detailed description of this mill appears in the Sept. 8, 1958, issue of PAPER TRADE JOURNAL).

The Kiu Dah Paper Co. at Linnei produces bleached printing paper and unbleached wrapping paper, uses bamboo and rice straw as raw materials. The rice straw is cooked at atmospheric pressure with caustic soda and the bamboo is cooked in a continuous digester with caustic soda or sodium sulphite.

The Ta Chung Paper Co. is a strawboard mill with five cylinder machines producing 25 tons daily, using rice straw, which is cooked with milk of lime in rotary digesters.

A similar plant is the China Board and Container Co. at Chiayi, another strawboard plant, which has converting equipment to make corrugated board and boxes.

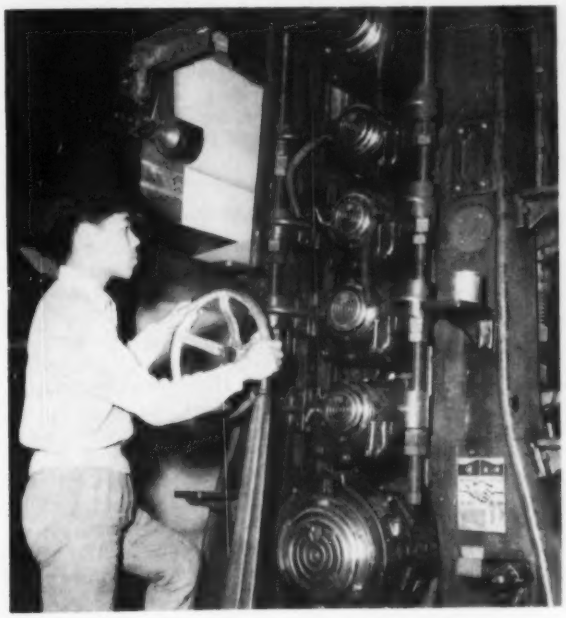
Besides these straight pulp and paper mills, a fiberboard mill and a wood particle board mill have been built since 1955. The Changhua fiberboard mill, owned by the Taiwan Sugar Corp., uses bagasse to produce about 150,000 square feet of board

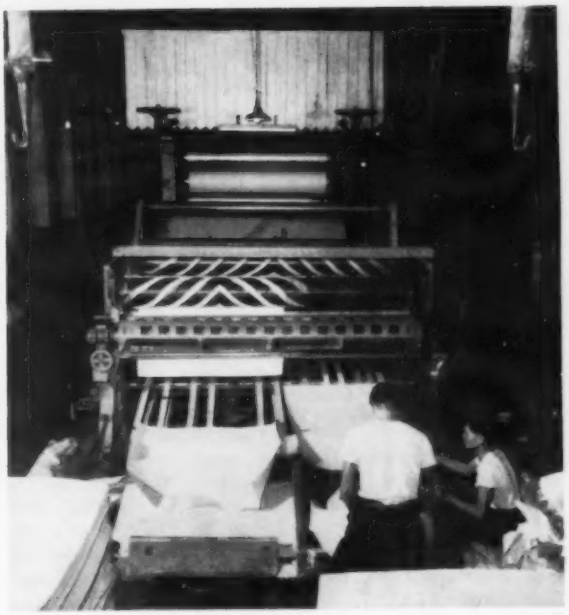


This 120 inch paper machine is used for newsprint manufacture.

Bleaching in a bellmer. Capacity is 12-15 tons per day.

Calendering onion skin. Emblem at lower right indicates machinery was supplied by U. S. aid funds.





Sheeter for newsprint has capacity of 9-10 tons per day.

per day. It has converting equipment to produce coated insulation board, soundproofing board, asphalt board, and oil-tempered board. This plant has a Dorr-Oliver forming machine, an R. D. Wood hot press, and a Downingtown press section, in addition to a Coe Dryer.

The wood particle board, manufactured at the Homodura Co. in Fengyuan, uses waste wood as raw material, employs the standard process with a horizontal three-layer forming machine.

Much Equipment Made Locally

Raw material for Formosa's pulp and paper industry is brought in by ox-cart in some cases, but more and more frequently by narrow-gauge railroad and by trucks. Much of the processing equipment can be made locally, thanks to Formosa's surprisingly diversified machinery-manufacturing industry, which is itself abetted by U. S. aid funds and by a reservoir of talent supplied by refugees from the China mainland, many of them graduates of U. S. engineering colleges.

One company, the Taiwan Pulp and Paper Corp., manufactures some 30,000 of the 100,000 tons of pulp and papers made annually in Formosa. TPPC owns the mills taken over from the Japanese in 1945. Interestingly enough, it became a private corporation through land reform, which required large landowners to sell their excess lands to the government in return for stock in government corporations, such as TPPC was. The former landlords are now the owners of TPPC, and their former tenants are now independent farmers.

In addition to TPPC and the newer plants mentioned above, there are about 30 smaller paper mills scattered throughout the island. Soon, Dr. Fries predicts, the minimum capacity will be 20 tons daily, still far below the U. S. standard of about 100 tons daily. U. S. aid and technical advice will make possible the construction of bigger and more efficient mills. Because Taiwan is a major rice and sugar grower and has thousands of square miles of forests, there is no conceivable shortage of raw materials.

Another big task is the application of Chinese merchandising knowledge, which is as traditional and well known as Chinese papermaking to the potential export markets. At present, Formosa's paper products are exported mainly to Korea, Thailand, Vietnam, and Hongkong, but foreign markets must be considerably expanded, Dr. Fries believes.

Installation of 10 truck levelers handles wide range of truck bed heights.

Loading Docks Made More Versatile

An interesting installation of truck leveling devices recently solved a loading dock problem for Consolidated Paper Co., Monroe, Mich., producers of corrugated and fibre shipping containers. The company needed facilities to load at least 25 trucks a day, so speed was one essential. An equally important consideration, though, was the fact that customers' trucks were involved . . . all kinds and sizes of trucks, with a consequent wide variation in bed heights. That meant some would be too high or too low for electric platform loading trucks to move in and out of the carriers easily over dockboards or ramps.

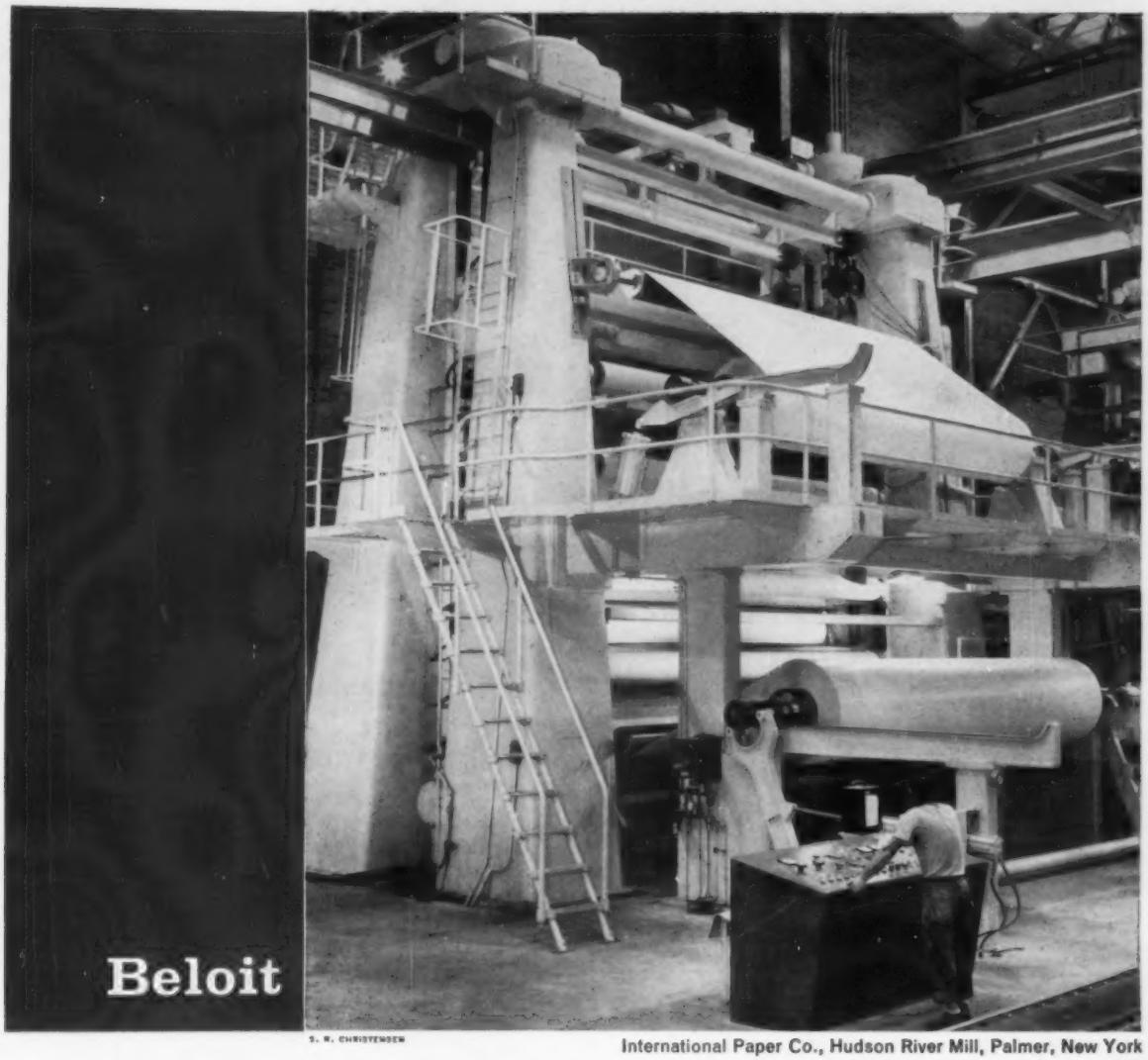
The Solution

The solution, Consolidated found, was the installation of ten truck levelers, hydraulic operated devices which are recessed into the loading dock pavement and raise or lower the truck bed to bring it level with the dock surface. The levelers are manufactured by the Rotary Lift Co. division of Dover Corp., Memphis, Tenn. Each leveler consists of a 10 by 14-ft. platform, floored with non-skid steel plate, hinged at one end and supported at the dock edge by two oil-hydraulic jacks. Capacity is 40,000 lbs. Consolidated's dock is 48 inches high, and the levelers are installed to travel 14 inches up or 14 inches down. The standard 28 inch travel can be divided in any manner to conform with any dock installation.

The truck leveler is provided with a center curb wheel guide to accurately position highway vehicles on the platform. Power is supplied by compact oil-hydraulic pumping units. In the Consolidated installation, two levelers operate off each power unit. Selector valves and pendant control ropes are located at the side of the dock, putting the operator in view of the equipment but out of the way of dock traffic.

Provide Additional Space

A bonus feature in additional space gained by installing Rotary truck levelers was reported by Robert D. Morse, general superintendent, of Consolidated. "We had just built an addition to our box plant," Mr. Morse noted, "and this type installation allowed us to use the space under the dock as a part of our basement, thereby increasing the size of our basement by approximately the square footage in the dock." "This meant a great deal to us because we needed the extra space. We think this is a very important point in the installation."



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International Paper Co., Hudson River Mill, Palmer, New York

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Rugged, dependable, compact . . . Beloit supercalenders are outstanding performers in the calendering of all grades of paper. Their practical design meets the most exacting demands for supercalendering in all widths and at speeds up to 2500 fpm. Features that contribute to Beloit performance are: resilient air-cushioned loading, quick roll change, renewable ways, fully adjustable gibs, complete unwind and rewind tension control, center or surface wind, special sheet threading arrangements, and positive high-speed lifts.

Why not discuss your supercalendering with a Beloit Sales Engineer? You will find his suggestions helpful. Beloit Iron Works, Beloit, Wisconsin.

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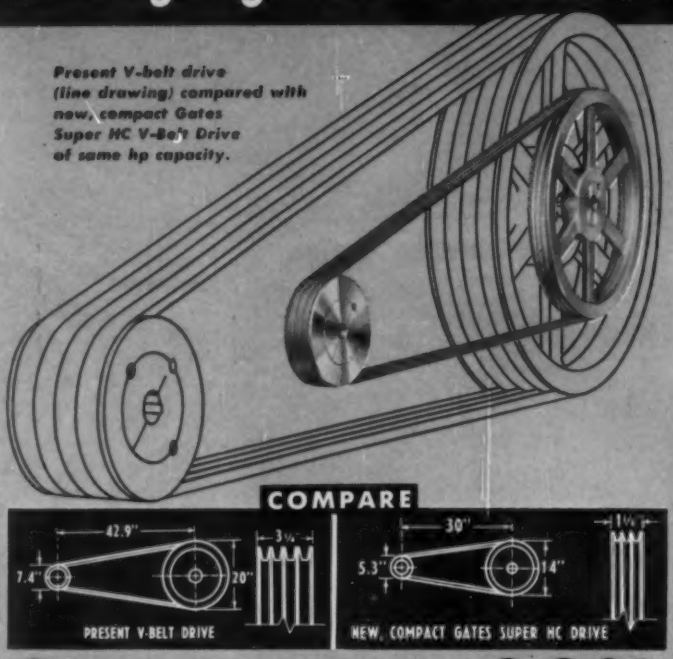
Designing NEW DRIVES?



Save up to 20%

with new high capacity V-belt drive

When you change the whole drive — both V-belts and sheaves — remember: The cost of a Gates Super HC V-Belt Drive is as much as 20% less than the cost of present V-belt drives of the same horsepower capacity.

A development of Specialized Research in the world's largest V-belt laboratories at Gates, the new Super HC V-Belt makes possible the most compact, lightest-weight, lowest-cost multiple V-belt drive you can put on any machine!

Cuts drive space as much as 50%

With Gates new Super HC V-Belt, sheave diameters and widths can be reduced 30% to 50%, center distances 20% and more. Bearing load is lightened and total space occupied by the drive may be cut as much as 50%.

"The Modern Way to Design Multiple V-Belt Drives" is an informative handbook on the Super HC Drive, available from your nearby Gates Distributor listed in the Yellow Pages of your phone book.

The Gates Rubber Co., Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ont.
World's Largest Maker of V-Belts

TPA 439

Gates SUPER HC V-BELT Drives

PJT + NEW LITERATURE

The Nickel Family of Small Tubing

Describes small tubing made from "A" nickel, low carbon nickel, "D" nickel and Duranickel. Also includes general characteristics and typical uses for the four analyses. Form 559-4½M-H. Superior Tube Co., 1909 Germantown Ave., Norristown, Pa.

Temperature Transmitter

Discusses details of a helium gas-filled system for measuring temperatures and transmitting pneumatically to indicating, recording, and/or controlling equipment at remote stations. Also lists operating characteristics and installation requirements. Specification P51-4. Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio.

Ohmart Level Gauging Systems

Outlines uses for Ohmart gamma radiation level gauges in the pulp and paper industry and gives details of an installation on a chlorine dioxide retention tower. Bulletin L-1. Ohmart Corp., 2236 Bogen St., Cincinnati 22, Ohio.

Trouble Shooting Label Blisters

Provides complete lists of factors causing label blistering and includes a number of test and inspection methods. Also contains an 18-page glossary of packaging adhesive terms. Manual. Price to Packaging Institute member $1.00; nonmembers $1.50. Packaging Institute, Inc., 342 Madison Ave., New York 17, N. Y.

What to Do When the Battery Comes

Gives step-by-step instructions on motive-power battery installation and maintenance. Form 1982-27th ed. Exide Industrial Div., Electric Storage Battery Co., Philadelphia 20, Pa.

Save with Multi-Circuit Chargers

Shows how to save one-third on space and upkeep with these multi-circuit chargers for industrial truck batteries. Diagrams show how the Exide models utilize one properly sized motor-generator with several assembled circuit-control sections for simultaneous and completely automatic charging of any number of lead-acid or nickel-alkaline batteries. Bulletin 6276. Exide Industrial Div., Electric Storage Battery Co., Rising Sun & Adams Aves., Philadelphia 20, Pa.

What Makes a Good Chipper Knife?

This article covers the manufacture of chipper knives and includes several pointers on proper knife maintenance and operation. Also provides a question and answer section on cutting and grinding problems. Cutting Trends Vol. 2, No. 1. Simonds-Worden-White Co. 11001 Negley Pl., Dayton, Ohio.

Welding Tubing and Pipe

Provides information on the welding characteristics of both austenitic and ferritic types of stainless steel. Also includes a table indicating electrodes, preheating and post welding heat treatments to be used in joining. Technical Data Card 162B. Babcock & Wilcox Co., Tubular Products Div., Beaver Falls, Pa.

Plastic Dall Flow Tubes

Contains descriptive text, dimension drawings and tables, a cutaway view, comparison chart, graphs and a list of different construction combinations. Bulletin 115.20-1, B-I-F Industries, Inc., 345 Harris Ave., Providence, R. I.

Side Transfer — Optimum Warehousing System

Describes a new concept of material handling system called the Stow system, said to cut wasted warehouse aisle space 50 per cent and more by eliminating the 90 degree turn of the fork truck. Brochure. Equipment Mfg., Inc., 21550 Hoover Rd., Detroit, Mich.

Lightweight Jacklift Hydraulic Pallet Truck

Presents illustrations, specifications and unique operating details on the HPF pallet truck. Circular 26C. Lewis-Shepard Products, Inc., Dept. R9-24, 125 Walnut St., Watertown 72, Mass.

Method for Determining Cyanides

Points out two schemes which may be used, with analysis by either method proceeding along parallel lines. Methodology Sheet. Technicon Controls, Inc., Chauncey, N. Y.

Processing of Wood Flour

Covers the uses of wood flour and a description of three completely different wood flour manufacturing systems. Technical Reprint. Sprout, Waldron & Co., Inc., 130 Logan St., Muncy, Pa.

Pic-A-Pump Catalog

Permits users to select the centrifugal pump best suited for their individual applications. Available on request to district offices of distributors for personal delivery by a company representative. Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.

Improved Gates Vulco Rope gives you 2 important advantages

1. 40% higher hp rating at no increase in price: This important cost-saving advance is the result of Specialized Research in the world's largest belt-testing laboratories at Gates. **As replacements on standard drives these V-belts with 40% more load-carrying ability give longer service life...reduce down-time, cut belt replacement costs.**

2. Concave Sides (U. S. Pat. 1813698): The sides of Gates Belts are concave (Fig. 1). When the belt is bent around the sheave, the concave sides fill out—become straight—for full, uniform contact with the sides of the sheave groove (Fig. 2). Uniform contact insures maximum pulling power...even distribution of wear...longer life.

Fig. 1

Fig. 2

Available in all sizes from your nearby Gates V-Belt Distributor listed in the Yellow Pages of your phone book.

When designing new drives
use Gates new Super HC V-Belts and Sheaves.
See opposite page.

The Gates Rubber Co., Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ont.

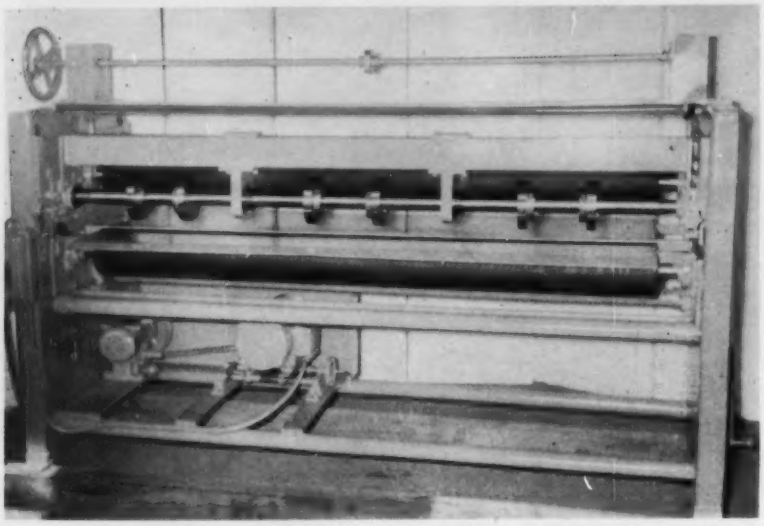
World's Largest Maker of V-Belts

Gates

TPA 432

Gates Hi-Power VULCO ROPE V-Belts

PJT NEW EQUIPMENT & SUPPLIES



Roller Coater Applies Adhesive in Strips

A strip roller coater that meets the high production requirements of the carton, paper and wood industries has been developed by Union Tool Corp. The Union Strip Coater permits adhesive application in given strips and patterns to many different types of materials.

Strip rolls are adjustable for different patterns of adhesive and can be interchanged for wide or narrow glue strips as desired. Openings in the upper coating roll assemblies are adjustable to 2 inches through the gear-elevating mechanism with single handwheel control. A variable speed drive is also available with any 3:1 ratio.

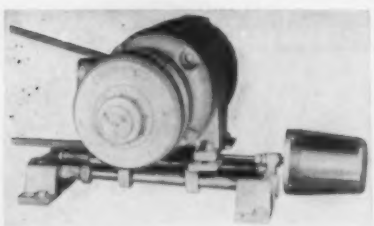
Coating assembly consists of three rolls: a doctor roll, a transfer roll, and a strip roll. The adhesive is carried in the crotch between doctor and transfer rolls. Thick or thin coatings can be applied by a simple adjustment of the openings between these two rolls. Further control of the adhesive thickness can be obtained by running the strip rolls in and out toward the transfer rolls.

The Union Strip Coater is available with rolls from 12 inches to 108 inches in length. Unit illustrated is a top strip coating machine; bottom type units are also available.

For complete details, write Union Tool Corp., Warsaw, Ind.

Actuator for Sliding Motor Base Drives

A high torque, rotary actuator for remote and automatic control of industrial equipment is announced by the Jordan Co., Inc. The SM-18 Shaftrol Actuator is available with a built-in precision potentiometer which is gear connected to the output shaft through a wide choice of ratios so that from 1/6th to 40 shaft revolutions corresponds to full scale control. The potentiometer provides remote indication of position on a dial or meter, or serves in automatic control circuits.



Ratings to ¾ hp. are available in single and three phase styles with 500-watt units offered in two-phase, servo types. A typical unit delivers 200 in.-pounds at 50 r.p.m. for remote or automatic control of the sliding motor base of variable pitch sheave drives. The hollow shaft mounting permits manufactures to offer remote and automatic control as an optional feature without redesign of their equipment. The Shaftrol Actuator slips on the control shaft in place of the standard handwheel.

A complete line of automatic, punch card and programming controls are available for use with the actuators. The Jordan Co., 3235 W. Hampton Avenue, Milwaukee, Wis.

Solid State Computer Consolidates Processing

The Univac Solid-State 80 computer is universally adaptable to all types of punched-card installations, the Remington Rand Division of Sperry Rand Corp. announces.

The computer, which has a "memory" capacity of 50,000 characters of information, operates in microseconds—millionths of a second. Words can be read at the rate of 58,800 per second, and numbers can be added at the speed of 11,760 per second.

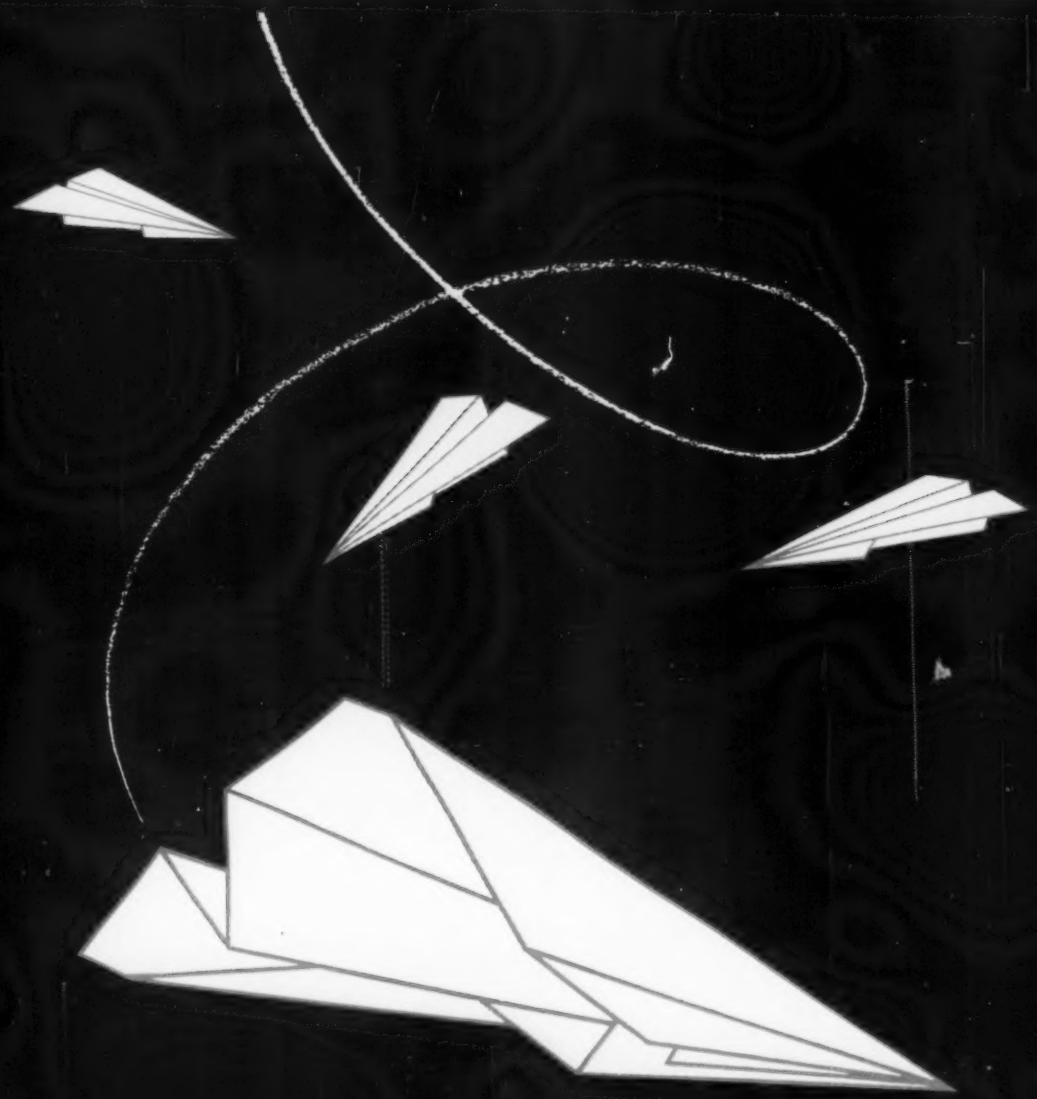
The Univac Solid-State 80 makes possible the application of a technique known as "card stretching." This permits up to 25 per cent more data than was heretofore possible to

be stored on an 80-column card. Considerable savings in card and card-processing costs are thus possible.

Production control, billing of accounts receivable, sales analysis and inventory control can be coordinated into a single, unified processing procedure, instead of multiple, isolated applications, it was pointed out.

Comprised of a central processor, an 80-column high speed card reader, an 80-column read-punch unit and a

(Continued on page 50)



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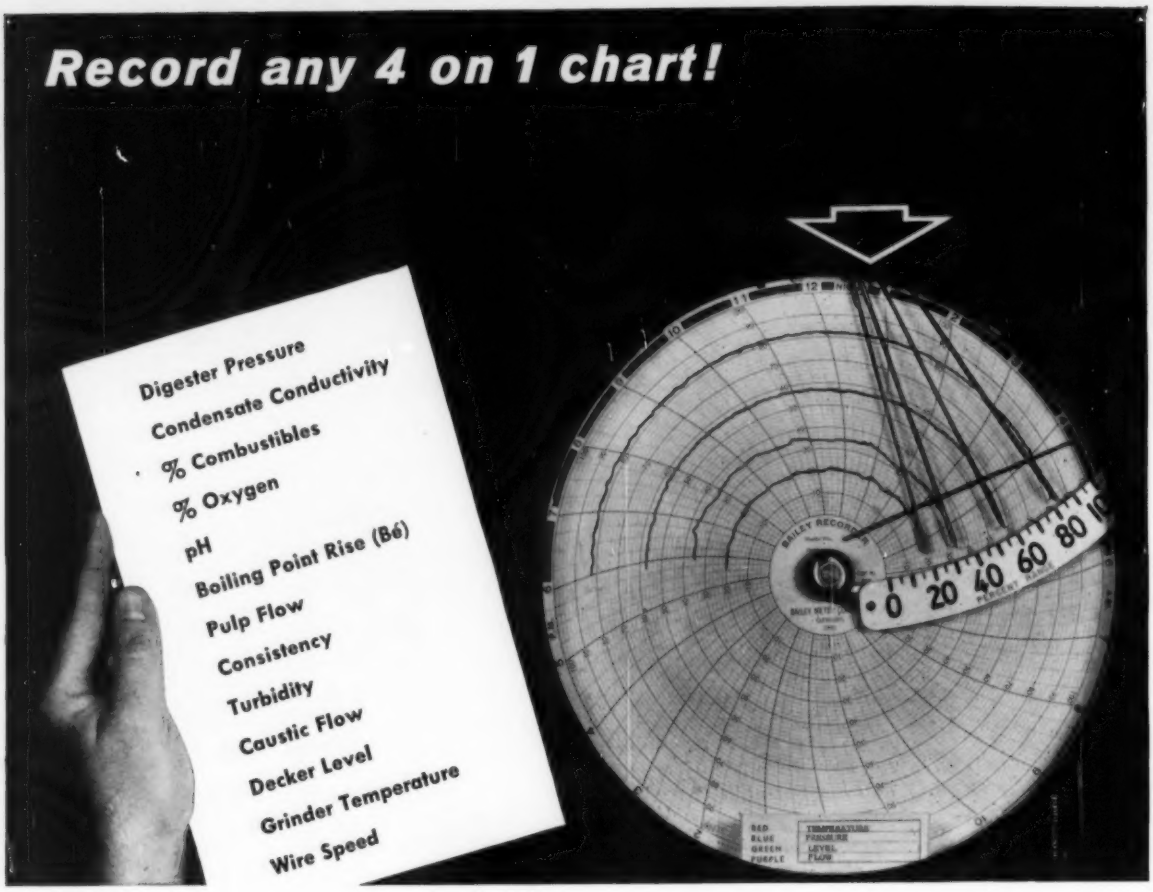
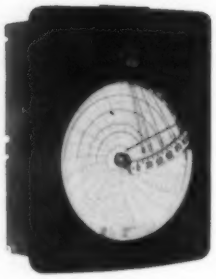


To give your operation "FOUR-IN-ONE" efficiency...

The BAILEY Receiver Recorder-Controller!



Records four variables on one chart.

You can lower the cost of your equipment investment and increase the efficiency of your entire operation with the Bailey Receiver Recorder.

HERE'S HOW

The interchangeable components for the Recorder make it fast, inexpensive, and automatic to do up to *four* measuring jobs at the same time with either or both pneumatic and electric systems.

This Bailey unit continuously and simultaneously records four variables on the same chart. And, they are *in the same linear scale measurement.* You have clear, easy-to-read records for continual analysis and control.

Plug-in, pre-calibrated receivers can easily be adapted on-the-job to revised process requirements. The Bailey Receiver Recorder saves you money with a minimum instrument investment for process cycle expansion or alteration. Let your local Bailey engineer suggest applications to fit your operation. Or write for specific control systems information for your entire plant operation. P44-1

Instruments and controls for power and process

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In Canada—Bailey Meter Company Limited, Montreal

BAILEY METERS

Modern Methods of Mechanical Pulp Manufacture

This book comprehensively covers all aspects of groundwood pulp production. The author, K. H. Klemm, has a broad knowledge of groundwood manufacturing methods and has been associated with groundwood mills on both sides of the Atlantic. Price: $5.00.

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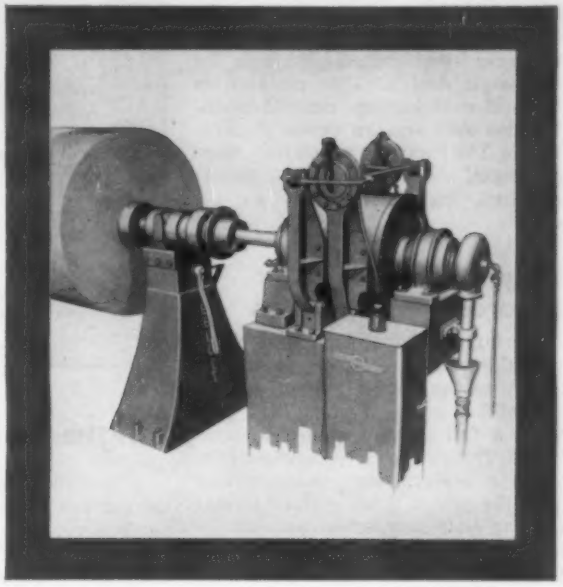

Looking for dependable unwind tension control?

Beloit time-tested Unwind-stand Brake

Investigate this superior equipment—unquestionably the finest unwind-stand control on the market today. Beloit brakes can be manually controlled or furnished with Beloit automatic Tru-Tension. Tru-Tension provides for complete roll inertia compensation, maintaining selected sheet tension for winder sets of uniform hardness.

» ACT! *Write for full information—or let a Beloit Sales Engineer show you how easily you can add the Beloit Unwind-stand Brake to your machine. Write to Beloit Iron Works, Beloit, Wisconsin.*

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your partner in papermaking

NEW EQUIPMENT

(Continued from page 46)

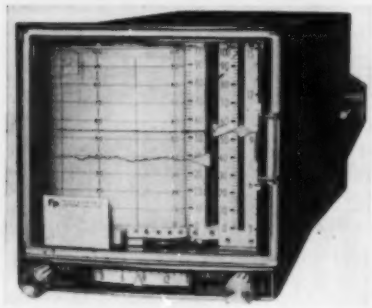
high speed printer operate at the rate of 600 lines a minute.

A low-cost computer, its price advantages stem principally from its solid-state design. This permits its compact construction, reduced maintenance costs and low power requirements. The company added that since no special air-conditioning system is required, installation costs are reduced.

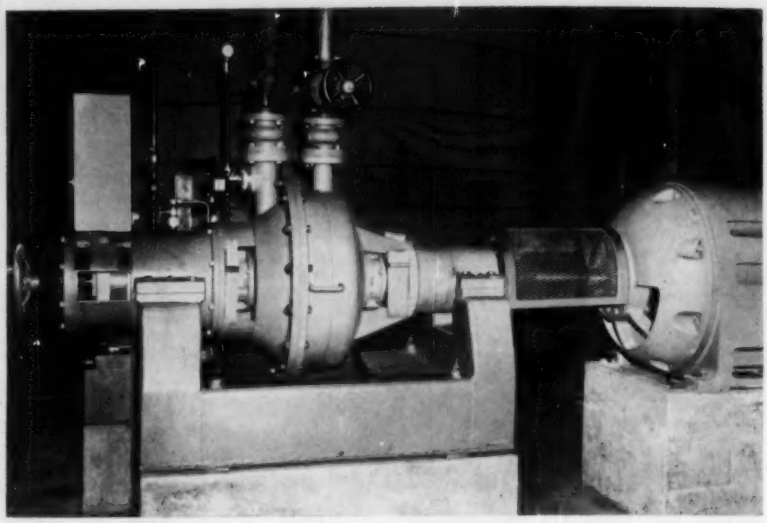
Strip Chart Controller Records for Full Month

An improved four-inch strip chart recorder and recorder controller, known as the Mark III line, features a modified inking system that provides a full month's record without refill. The new pen mechanism provides a bolder, more uniform line over the entire chart width. Reinking can be accomplished without interfering with movement of pen parts. A flip switch for reversing controller action from air to open to air to close is featured.

Other claims include wide visibility plastic door, built-in damping of pneumatic input signals, fused chart



motor, and bolder easier-to-read scales with larger high intensity colored pointers. Control station knobs are larger and can be operated even with gloves on. The Mark III retains previous features as follows: four-inch rectilinear chart; 14 hours visible chart record; complete accessibility to, and removal of, chassis without disturbing process even while operating in automatic control; interchangeability of indicating and recording chassis; universal manifold design for either plug-in or remote mounted controller; lifetime-calibrated Ni-Span C measuring capsules; continuous valve pressure indication. For more information, write Fischer & Porter Co., 143 Jacksonville Road, Hatboro, Pa.



Single-Disc Refiner for Medium Sized Mills

A 24-inch pressure type single revolving disc refiner with 50 tons per day pulp capacity has been announced by The Bauer Bros. Co., 1758 Sheridan Ave., Springfield, Ohio. It is claimed to offer high capacity at relatively low power consumption and minimum operating costs.

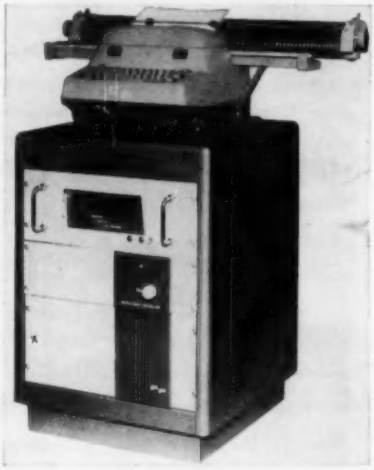
The 444-24 inch Pump-Through Refiner is designed primarily for small and medium sized mills. It can be supplied with standard manual, automatic or remote controls for quick control of plate clearance to compensate for the type of stock desired and to assure maximum uniformity in refining. Stock flow through the refiner is regulated by a stock valve on the discharge line.

The slow speed rotating disc is so located between the bearings that the discs would remain parallel even if there were shaft deflection. The rotating disc is pulled, not pushed, against the stationary head. This is said to result in a simple stress pattern that minimizes deflections.

A one-piece steel welded base, reportedly minimizes thermal and mechanical stresses and prevents distortion or misalignment of shaft and bearings.

Information System For Pipeline Data

An integrated Pipeline Information System for accurately measuring, transmitting, indicating and recording flow, pressure, temperature and other pipeline variables in digital form is now available from Fischer & Porter Co. The system measures variables at remote points and relays data by means of standard communication or telemetering equipment to a central control station where it is converted into digital form and recorded by automatic typewriter. The system features a single transistorized analog-to-digital converter (ADC) which converts and displays telemetered data continuously in digital form at the central control station. The system also features continuous alarm monitoring with adjustable high-low set points. The equipment can be adjusted to indicate pipeline variables directly in p.s.i. degrees Fahrenheit or Centigrade, r.p.m., barrels per minute, or whatever unit of measurement is desired. The F & P Pipeline Informa-



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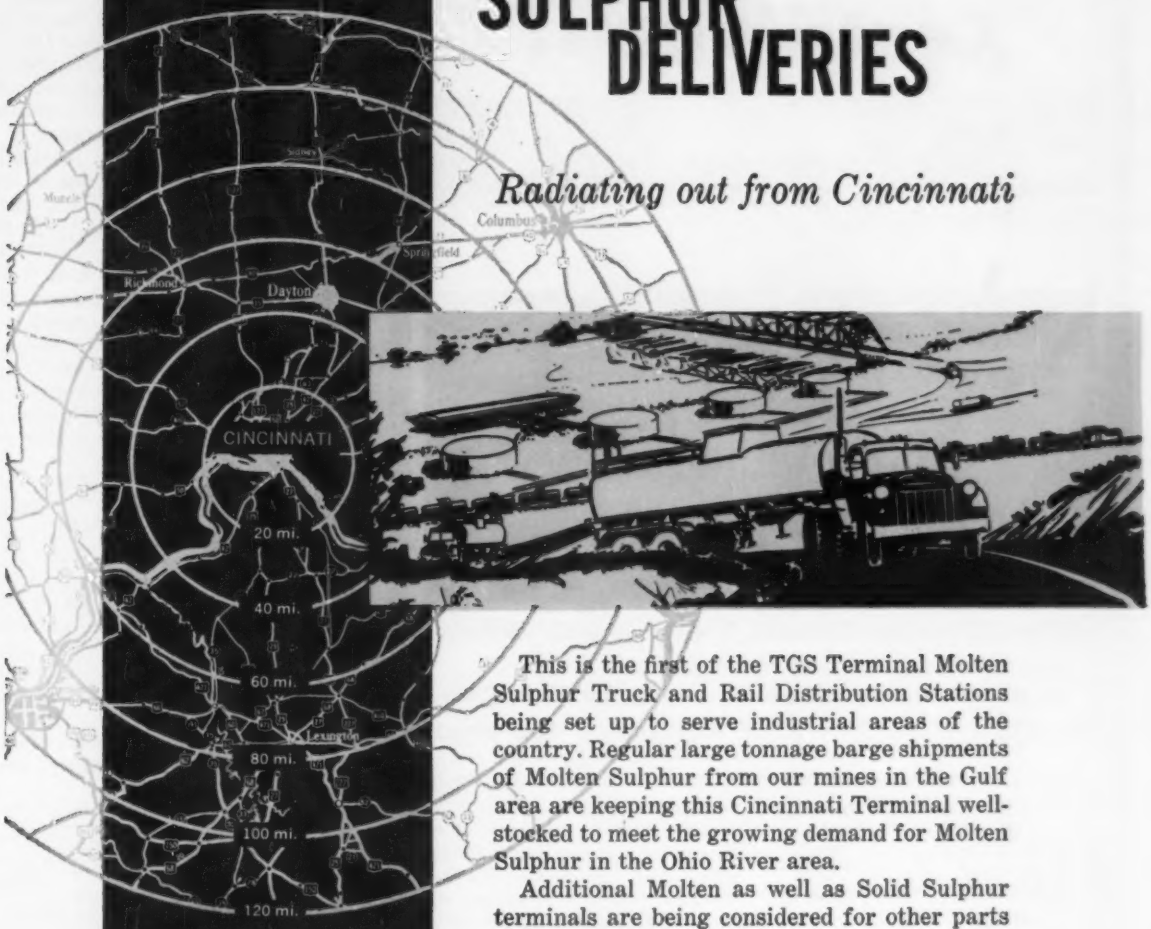
Radiating out from Cincinnati



This is the first of the TGS Terminal Molten Sulphur Truck and Rail Distribution Stations being set up to serve industrial areas of the country. Regular large tonnage barge shipments of Molten Sulphur from our mines in the Gulf area are keeping this Cincinnati Terminal well-stocked to meet the growing demand for Molten Sulphur in the Ohio River area.

Additional Molten as well as Solid Sulphur terminals are being considered for other parts of the country.

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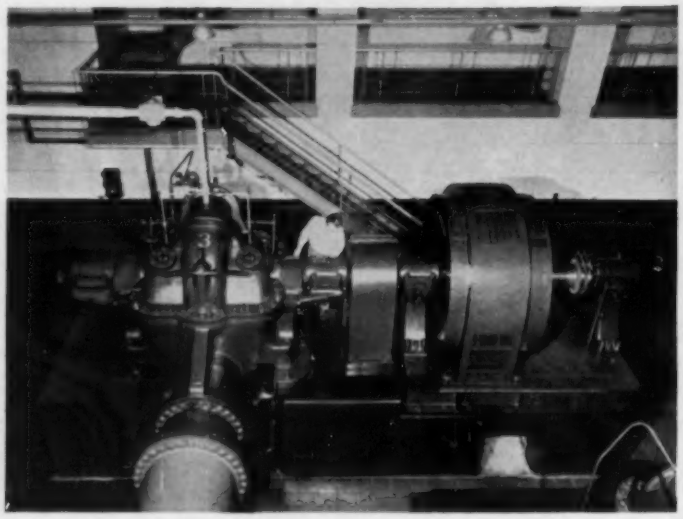
Molten Sulphur in tank *cars* can be delivered to any point in the States or Canada from our nearest mine or recovery plant. Barge deliveries of Molten Sulphur are available on all navigable inland waters. Solid Sulphur, as for many years, is deliverable all over the world. Large inventories at our mines assure industry it will get its supplies when needed.

A case for F-M Split-Case Centrifugals!



Typical installation in Toledo averages 80.314% wire-to-water efficiency for year!

Exceptionally high and dependable efficiency with steady, low-cost operation year after year—that's the report from a host of municipalities and industries using Fairbanks-Morse pumps in their pumping stations.

Why? Ask stations like Collins Park High Service in Toledo, O., where five Fairbanks-Morse 36-in. Split-Case Centrifugal Pumps have been giving superb performance for 17 years. The No. 3 pump in the photo pumped 6,065,590,000 gallons in one year alone, handling 26.13 percent of the plant total, and consuming just 3.55 kilowatts hours per million foot gallons!

Your Fairbanks-Morse Field Engineer welcomes you to inspect many other reports like this from his files—reports revealing why no other manufacturer can match the experience of Fairbanks-Morse in providing pumps and drivers for both municipality and industry. Your F-M Field Engineer will be glad to work with your own engineers in selecting the best equipment for your specific requirements. Write Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

See Sweet's Product Design Catalog File for complete F-M Pump Line.

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PUMPS • SCALES • ELECTRIC MOTORS • DIESEL, DUAL FUEL AND GAS ENGINES
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tion System is expected to contribute significantly to the efficiency and safety of pipeline operations. For more information, write Fischer & Porter Co., 241 Jacksonville Road, Hatboro, Pa.

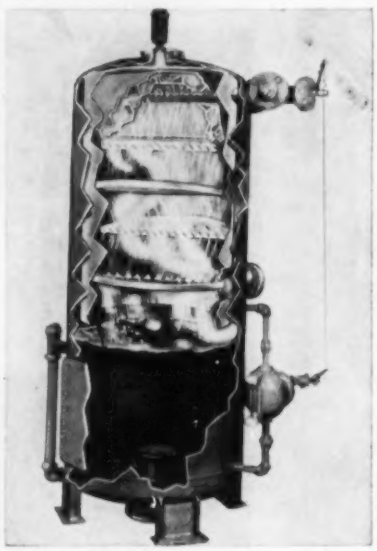
Feedwater Heater has Internal Vent Condenser

The condenser for a deaerating feedwater heater is in the form of a double-walled hood at the top of the heater. A series of opposing fins on the inside walls slows and condenses the rising steam. Air and non-condensable gases escape through the air vent valve to atmosphere.

In operation, entering feedwater sprays against the underside of the hood, deflecting down in a fine mist. This mist falls onto the top baffle plate, runs down the slope and over a serrated edge onto the next baffle below. As water cascades downward in thin streams, steam flows up, scrubbing the water and sweeping air and non-condensable gases upward through the vent condenser and out through the air vent. Only enough steam escapes to insure complete removal of the air.

Flow of steam and water in opposite directions insures maximum feed-water temperature with minimum steam consumption. Other features include stainless steel inner shell in deaerating section where oxygen is released, and choice of float controls to regulate feedwater inlet.

Heaters are available with either vertical or horizontal storage section, in a capacity range from 3,000 to 300,000 lbs. per hr. Sticles Steam Specialities Co., 2215 Valley Ave., Indianapolis 18, Ind.



ated centrifugal and pressure screen

Pulp Paper and Board Mill Maintenance

Based on actual in-plant experience and prepared by well known men in the paper industry, this 126 page book brings you in easy to read language procedures for plant maintenance of kraft mills, semi-chemical mills, bleach plants, fourdrinier and cylinder machines, stock preparations equipment, and other machinery used in pulp and paper making. Price $2.50.

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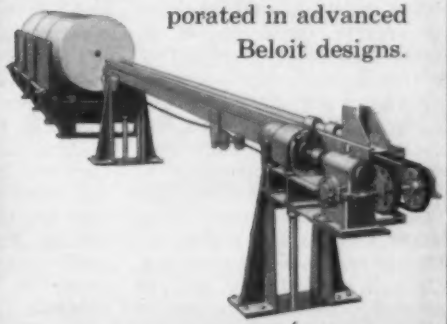
Beloit-designed, completely automatic

Roll and Shaft-handling equipment

Rapid shaft removal—finished roll delivery—shaft dressing and shaft return—all are incorporated in advanced Beloit designs.



» ACT! *For full information about Beloit roll and shaft-handling ask a Beloit Sales Engineer, or write to Beloit Iron Works, Beloit, Wisconsin.*

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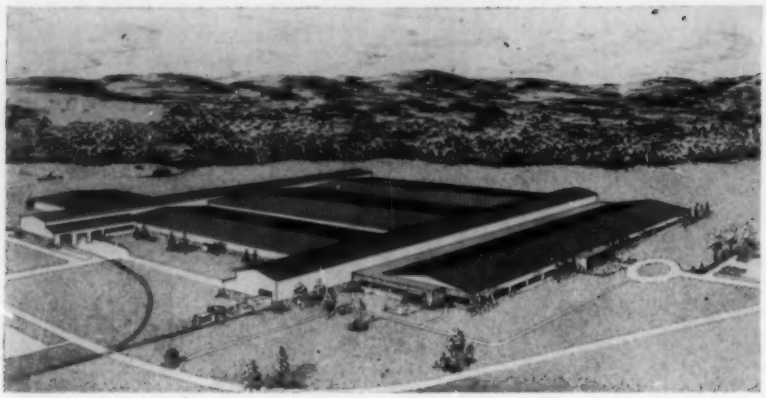
PJT NEWS OF SUPPLIERS



E. D. Jones Corp. is building a completely new plant four miles east of the center of Pittsfield. This new facility on 82 acres of land astride the Pittsfield-Dalton line is due for completion about December of this year.

The office and all manufacturing operations located in various parts of Pittsfield, principally in several multi-story buildings in the center of the city, are to be moved to this single floor operation.

Incoming materials received either by truck or rail (foreground of accompanying photo) are stored to feed directly into multiple fabricating or machining bays each 50 ft. wide by 300 ft. long. Completed parts are stored adjacent to the assembly shop, thus reducing in-plant movement to a minimum. Outgoing products are to be loaded at undercover rail or truck docks at the south end of the assembly shop. Wood processing, which is still a substantial part of the company's products, is to be handled in a building connected to the assembly area but away from other manufacturing because of fire hazard.

Total area under roof is about 195,000 sq. ft. including office. All construction is steel frame with clear spaces from 50 to 100 ft. and heights from 16 to 40 ft. Stores and all manufacturing areas are served with cranes varying in capacity from 3 to 25 tons.

Basic planning for the buildings has been a cooperative venture by E. D. Jones Corp., various vendors and Beloit Iron Works. Several local contractors are participating in various phases with main buildings being furnished and erected by Armco Steel Corp. Power groove lighting, indirect and individual gas-fired heating units, Burgess-Manning ceilings with radiant heat for the offices are some of the many innovations that are to be in this ultra-modern facility. Design makes it possible to expand the buildings to double or quadruple the present area and retain the principle of raw material storage and work flow toward present or expanded assembly bay areas.

Orr Felt & Blanket Co., Piqua, Ohio, has appointed W. R. Spencer sales representative for the South Central territory which was made vacant by the untimely death of George Witham.

Mr. Spencer has been employed for a number of years in the Papermakers' Felt Industry. He has spent the past six months in Piqua and in the field training for felt sales and service work.

Fitchburg Screen Plate Co., Inc., Fitchburg, Mass., recently purchased the Wickwire Spencer Perforating Division of Colorado Fuel and Iron Corp. The new company bears the name National Perforating Corp. and is located at Clinton, Mass. Sales and administrative offices are located at the offices of the parent company.

The new perforating plant provides complete facilities for the manufacture of all types of perforated centrifugal and pressure screen plates for the pulp and paper industry in a wide variety of metals, including stainless steel, inconel, monel, copper, and aluminum bronze. Sales to the pulp and paper industry will be handled through Morey Paper Mill Supply Co., 309 South Street, Fitchburg, Mass., which is an affiliated company under the same management.

New Jersey Zinc Co., has announced a further extension of its representation in the zinc and titanium pigment consuming fields, with the appointment of the following members to the sales staff in the Middle West and West Coast areas.

Harold R. Frasure will take up his duties at Cincinnati and will cover the Columbus, Dayton and Indianapolis areas as well.

Stanley E. Moore joins the Chicago sales office and his territory will include the Minneapolis-St. Paul area.

John B. McCarthy will make his headquarters at the Los Angeles sales office.

Walter E. Menhinick, who has been a member of the Chicago office, is transferred to St. Louis. He will also cover the Kansas City and Louisville areas.

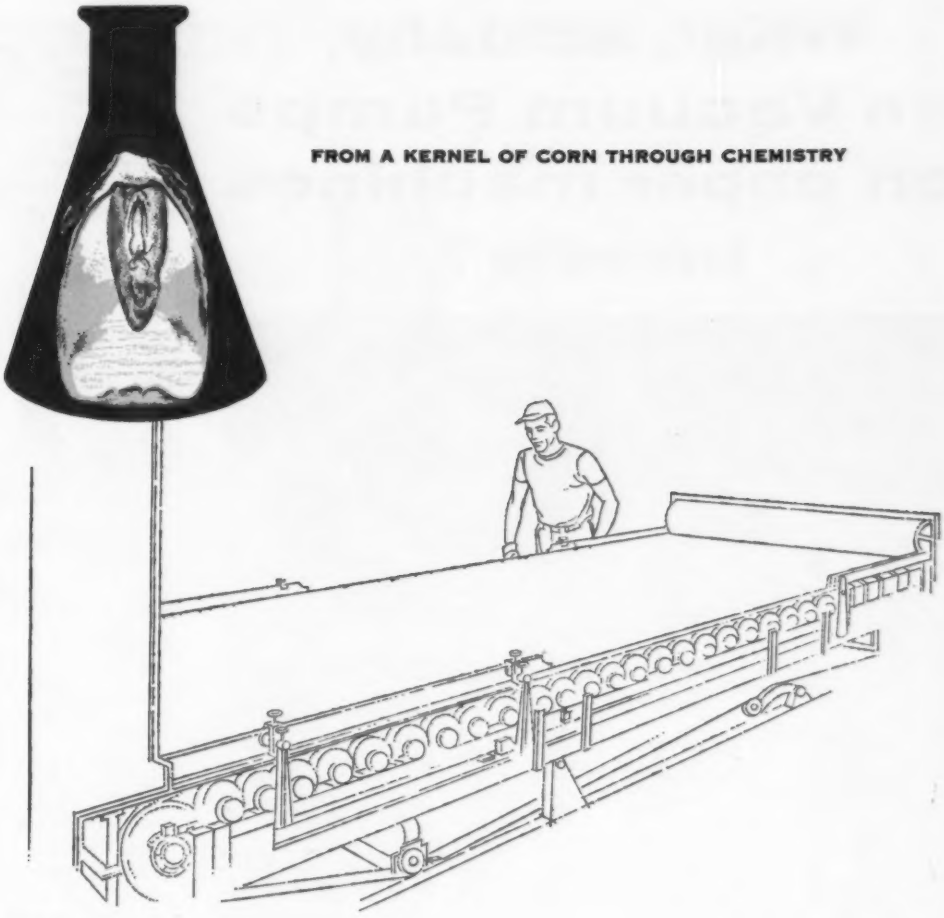
C. G. Link

R. F. Dauenhauer

The Ohio Injector Co. has announced a division of its field sales organization into two regional operations. Carl G. Link has been named Eastern regional sales manager, and will be responsible for all operations for the eastern half of the U.S. His offices will be located in New York. R. F. Dauenhauer becomes Western regional sales manager with Chicago as his headquarters.

Mr. Link joins O. I. C. from New York Belting and Packing Co., a U.S. Rubber Co. subsidiary, where he was national sales manager. Mr. Dauenhauer was promoted from sales manager of Central division of O. I. C. at Chicago.

Nopco Chimie S. A., Fribourg, Switzerland, has appointed John E. Ward resident manager, according to



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CATO is another unique starch derivative from National. Its molecule carries cationic groups. These are attracted by relatively anionic cellulose fibers. The result is extraordinary strength in papermaking. Also, it significantly increases retention of pigments, fillers and other additives. And it is one of the most effective means known for producing higher ash content sheets without loss in physical properties.

CATO leads to unusual improvements. At one mill, with higher mullen and faster machine speeds. At another, with increased strength and a less costly pulp mixture. At another, with increased pick, fold and mullen and lower starch costs. To name a few.

CATO is highly effective with sulfite, soda and groundwood pulp. Also with kraft and reclaimed stocks. Additions are small because it is virtually 100% retained in the sheet. For full information, contact your nearest National office.

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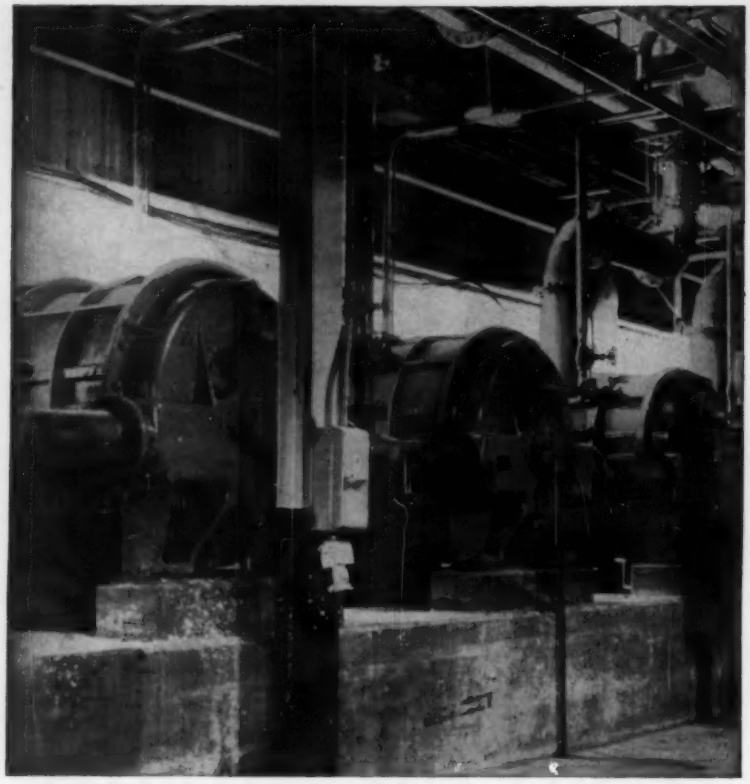
What, actually, do Vacuum Pumps on paper machines handle?



Paper mill engineers know that it is actually a mixture of air and water vapor, but the custom of rating vacuum pumps in terms of air capacity alone causes this important fact to be frequently overlooked.

The presence of this water vapor causes a considerable reduction of the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump the bulk of this water vapor is effectively condensed, due to the Nash operating principle. The air handling capacity of the Nash is therefore not reduced.

That is one of the reasons why Nash Vacuum Pumps are standard in over a thousand leading Paper Mills.

NASH ENGINEERING COMPANY

443 WILSON ROAD, SO. NORWALK, CONN.

E. A. Robinson, vice president in charge of Laboratory Research and Development and Foreign Sales for the Industrial Division. At the same time, Dr. Robinson announced the appointment of A. Howard Stuewe, who replaces Dr. Ward as technical manager of Nopco's Foreign Department-Industrial.

H. W. Forschner

C. M. Burns

Electric Machinery Mfg. Co., Minneapolis, Minn., announces the following sales appointments: Homer W. Forschner, former headquarters sales manager, has been appointed general sales manager; succeeding Mr. Forschner is C. M. Burns, former sales supervisor; J. H. Jones, former service manager assumes a new title, manager contract administration; K. L. Hanson, former sales supervisor, was appointed manager, large apparatus sales.

Mr. Forschner, an electrical engineering graduate of Ohio State University, joined E-M in 1929. He is currently active in N.E.M.A. as chairman of two committees concerned with rotating electrical apparatus.

Mr. Burns, a University of Minnesota graduate in electrical engineering, joined E-M in 1947 as a sales supervisor. He is a registered professional engineer.

Mr. Jones, a graduate of N. D. State College in electrical engineering, joined E-M in 1946 as service manager.

Mr. Hanson, graduated from the University of Minnesota in electrical engineering. He joined E-M in 1939 in the sales department.

Rosenblad Corp., New York, has announced the appointment of two additional sales representative organizations to handle Rosenblad's products for the pulp and paper industry.

One is the R. H. Brown Co., Portland, Ore., which will cover the territory of Oregon, Washington, Idaho, and western Montana.

The other company, F. M. de Beers & Associates, will handle northern Indiana, northern Illinois, Wisconsin, Michigan and Minnesota.

HYDRAFINE SUCCESS STORY

HUBER

from sample can to carload in one year

Rarely has a new material been accepted so readily by paper and boxboard manufacturers as Hydrafine. Mills that tried sample cans last year are now ordering carloads of this new coating clay!

In *paper coating*, Hydrafine excels in developing high brightness and gloss. In *boxboard coating*, Hydrafine gives maximum brightness and covering power at low coat weights. A clay of *extreme fineness*, Hydrafine is spray-dried in the pre-dispersed form preferred by many manufacturers. Hydrafine is also available in lump and pulverized form.

Hydrafine is produced by Huber's patented Viscontrol process, which eliminates viscosity fluctuations normally found in all kaolin crudes.

SPECIFICATIONS:
Particle size—90-94% finer than 2 microns
GE Brightness—86-87%
Controlled low viscosity, as in all other Huber clays.

Join the growing ranks of satisfied Hydrafine users: write for your sample today!

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Clays and printing inks for the container industry.

PRODUCTIVE LANDMARKS

of Economic Growth

Rust has designed and constructed plant facilities increasing pulp and paper production. Ask for details.

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STOCK CONTROL MADE EASY

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Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	June 20	June 27	July 4	July 11	July 18
1959	96.7	96.0r	72.5r	72.9r	92.0
	June 21	June 28	July 5	July 12	July 19
1958	89.2	88.0	49.2	64.3	86.1

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1959	87.8	90.5	93.2‡	94.4‡	95.5‡	95.0‡	—	—	—	—	—	—	—
1958	86.9	89.5	89.5	88.4	87.2	87.2	75.3	89.6	86.5	91.6	90.4	83.1	87.1

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1952	1953	1954	1955	1956	1957	1958	1959
Year to Date	90.7	92.3	91.4	94.6	99.1	92.0	85.1	91.4
Year Average	88.6	92.3	91.6	94.0	97.9	90.9	87.1	—

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	June 20	June 27	July 4	July 11	July 18
1959	98	98	82	56	84
	June 21	June 28	July 5	July 12	July 19
1958	88	89	61	48	83

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1959	86	93	95	93	96	96	—	—	—	—	—	—	—
1958	80	86	83	84	84	86	76	93	90	95	92	81	86

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	THIS WEEK ENDING July 18, 1959	LAST WEEK ENDING July 11, 1959	CUMULATIVE TO DATE Jan. 1 to July 18, 1959 incl.
% Activity	84%	56%	91%
TOTAL	274,741	180,359	8,498,193
Liner	95,824	65,009	2,917,095
Corrugating Material	44,634	31,166	1,295,367
Chip & Filler Board	5,724	2,760	144,657
Total Containerboard	146,182	98,935	4,357,119
Folding	45,533	25,257	1,554,411
Set-Up	9,101	4,316	317,372
Special Food Board	23,258	20,115	787,362
Other	50,667	31,736	1,481,929
Total Boxboard	128,559	81,424	4,141,074
Total Orders			
Received	278,124	255,670	
Unfilled End of Week	565,951	567,234	

Low operating rates for week ending July 11 reflects the practice of vacation shutdowns by a number of mills.

Alvin H. Johnson & Co.
INCORPORATED
Consulting and Designing Paper Mill Engineers
415 LEXINGTON AVENUE NEW YORK 17, N. Y.
PAPER MILL DESIGN PROCESS ENGINEERING POWER PLANTS
STRUCTURAL AND ARCHITECTURAL DESIGN
REPORTS APPRAISALS ESTIMATES AND SURVEYS

FIGHT CANCER WITH A CHECKUP AND A CHECK

They're both cats, but...

each is in a class by itself . . . like Wyandotte's PURECAL® O

You'd never mistake a jungle tiger for a pet kitten . . . but are you as aware of the difference in calcium carbonates?

For, all calcium carbonates are *not* alike. Wyandotte PURECAL O – the calcium carbonate that's in a class by itself – is precipitated by a special process which yields agglomerate-free particles 0.15 micron in size, consistently cubical in shape. What's more, PURECAL O exceeds U.S.P. purity standards – and is a product of *exceptional* whiteness.

For these reasons, PURECAL O in paper coatings improves flow and leveling for better printability . . . provides a smoother, whiter surface that brings out all the beauty of the four-color process, and reproduces halftones in faithful detail.

Try PURECAL O in your formulation, and discover for yourself how it can help you make a *better* sheet to sell at *competitive* prices. Write for samples and technical data, today. *Wyandotte Chemicals Corporation, Dept. 754-J, Wyandotte, Michigan. Offices in principal cities.*

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Prices of Fibers

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THIRD QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$ 82.50/ 90.00	$ 82.50/ 90.00	‡$90.00/ —	‡$80.00/ —	‡$90.00/ —
Bleached Gw'd	$ 97.50/100.00	$ 97.50/100.00			
Kraft, Blchd.	157.00/ —	160.00/162.50	‡157.00/162.50*		‡157.50/ —
Kraft, Blchd. Hdwd.	152.00/ —		‡137.00/ —		
Kraft, Semi-bleached.	140.00/ —	140.00/ —			
Kraft, Unbl.	117.50/125.00	125.00/130.00	†125.00/130.00	125.00/ —	
Sulphite, Blchd.	155.00/ —	155.00/ —	*150.00/ —	*155.00/ —	155.00/ —
Sulphite, Bl. Hdwd.	150.00/ —				
Sulphite, Unblchd	135.00/ —	135.00/ —	†135.00/ —	*135.00/ —	
Sulphite, Unb'l. Gl'sn		140.00/ —	†134.00/ —		
Soda, Blchd.	147.00/150.00	150.00/ —			

‡ On Dock Atlantic Ports. * Freight allowed. † Varying Freight Allowances

COTTON LINTERS

F.O.B. OIL MILLS
WEEK ENDED JULY 21

	Atlanta	Memphis	Dallas	Los Angeles
Grade 1	n.a.	n.a.	n.a.	n.a.
2	n.a.	n.a.	$ — /6.75	7.50/7.25
3	7.00/6.00	7.50/7.00	6.25/5.75	7.00/6.75
4	6.00/5.25	6.25/5.75	5.50/5.00	6.50/6.25
5	5.25/4.75	5.25/4.75	4.75/4.50	5.75/5.25
6	4.75/3.50	4.50/4.25	4.00/3.75	4.25/3.75
7	3.50/2.50	4.00/3.00	3.25/2.75	3.00/2.75

WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

	New York	Boston	Chicago	Los Angeles
	July 27	July 27	July 27	July 27
No. 1 Mixed Paper	$ 10.00/ 12.00	12.00/ 14.00	9.00/ —	14.00/ —
No. 1 News	14.00/ 15.00	15.00/ —	18.00/ —	18.50/ —
Overissue News (Lg. size)	13.00/ 15.00	12.00/ 14.00	23.00/ —	20.00/ —
Mill Wrappers	19.00/ 22.00	13.00/ 15.00	14.00/ —	15.00/ —
Old Corrugated Containers	24.00/ 25.00	23.50/ 24.00	23.00/ —	22.00/ —
Super Assorted Kraft Paper	35.00/ 40.00	— / —	35.00/ —	55.00/ —
New Double Kr. Ld. Corr. Cuts	35.00/ 37.50	37.50/ —	37.50/ —	35.00/ —
(Semi-chem. medium)	47.50/ 50.00	45.00/ 50.00	45.00/ —	36.00/ —
New 100% Kraft Corr. Cuts	40.00/ 42.50	— / —	57.50/ —	— / —
New Br. Kraft, Env. Cuts	70.00/ 75.00	70.00/ 75.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Prntd.	55.00/ 60.00	55.00/ 60.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Unprintd	60.00/ 65.00	65.00/ 75.00	60.00/ —	60.00/ —
No. 1 Groundwood Shvs.	25.00/ 30.00	25.00/ 30.00	24.00/ —	35.00/ —
White Newsblanks	60.00/ 65.00	48.50/ 55.00	45.00/ —	55.00/ —
No. 1 Soft White Shvs.	60.00/ 65.00	60.00/ 65.00	55.00/ —	70.00/ —
Super Soft White Shvs.	65.00/ 75.00	75.00/ 85.00	65.00/ —	— / —
Hd. White Shvs.	85.00/ 90.00	90.00/100.00	85.00/ —	95.00/ —
Hd. White Env. Cuts	100.00/105.00	105.00/115.00	90.00/ —	113.00/ —
Col. Tab. Cards	55.00/ 57.50	55.00/ 57.50	55.00/ —	45.00/ —
Manila Tab. Cards	77.50/ 80.00	77.50/ 80.00	75.00/ —	65.00/ 70.00
No. 1 Col. Ledger	40.00/ 45.00	37.50/ 42.50	50.00/ —	38.00/ —
White Ledger	60.00/ 62.50	60.00/ 65.00	60.00/ —	55.00/ —
Mixed Book & Mag.†	25.00/ 28.00	— / —	20.00/ —	— / —
No. 1 Books‡	30.00/ 32.50	24.00/ 26.00	40.00/ —	17.00/ 24.00

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.

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Westvaco manufactures its products from virgin chemical pulps, and carefully maintains precise uniformity and quality standards . . . your assurance of top performance.

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Kraft Papers . . . Bag, multiwall sack, envelope, asphalting, impregnating, waxing, and new CLUPAK* stretchable paper.

Containerboard . . . Linerboard and corrugating medium.

Market Pulp . . . Bleached and unbleached sulphate.

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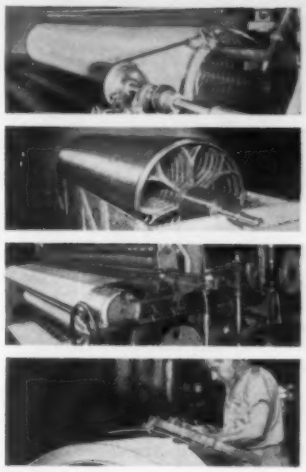

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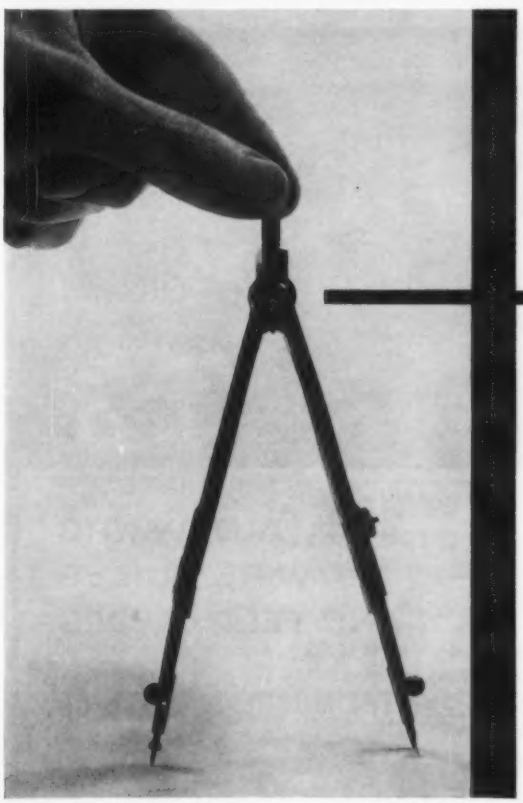

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- ▲ Procurement of Materials
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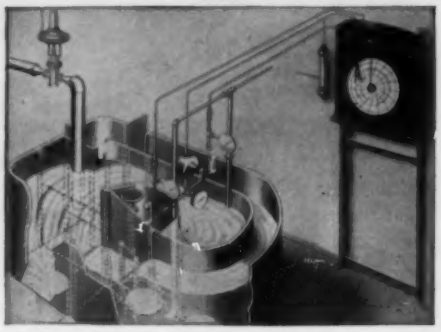

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No moving parts—no maintenance problems.

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Demineralizing Plants
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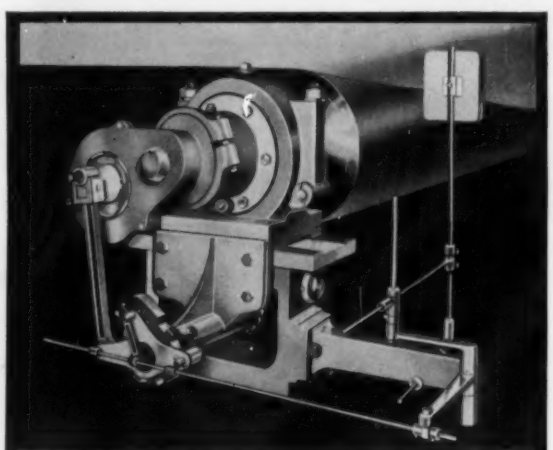

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Specialty mill in New England developing new grades requires man with at least 5 years operating experience, technical knowledge desirable but not essential. Excellent opportunity in growing organization. Box 59-202 care Paper Trade Journal.

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MS or PhD

For Large Integrated Pulp & Paper Company

This challenging career position requires a man who should possess experience in unit operations with special emphasis on mass and heat transfer and fluid mechanics. Special training in differential equations, experimental design and general statistical methods desirable but not essential. 3 to 5 years previous experience in research and development in paper and product processes is desirable. Applicants of superior qualifications will be considered without this experience.

Salary is fully commensurate with previous experience.

Please forward your resume in strict confidence to

Box 59-225 care Paper Trade Journal

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CHEMICAL ENGINEER

Graduate Chemical Engineer for new engineering and development work. Job will require some travel to operating units in North America. Will be located in Southeastern U. S. A.

Applicant must have experience in sulphite pulp process. Experience in recovery of by-products in sulphate and sulphite processes desirable. Age up to 40 years. Good salary and advancement opportunities. Organization has no chemical engineers and is now entering chemical manufacturing field. Our employees know of this ad. All replies treated in confidence. Submit detailed resume to: Box 59-156, care Paper Trade Journal.

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Here is an unusual opportunity for technically-inclined salesmen who have had paper mill experience or who have sold to paper mills.

The products are specialty starches for all paper making applications.

The applicant must be able to arrange for and conduct his own demonstrations.

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1—38½" 5-color Cottrell Hand-Fed for Multi-Wall Bags
1—33" 6-color Cottrell-Heinrich Flexo
1—30" 4-color Hudson-Sharp Press (Central Impression Cyl.)
24—Two Color Manhasset Flexo Tail Printers.
2—18" 3 & 4 color Martini Flexo
1—10" 4-color Roto Press.
2—9" x 12" 2-color & 1—12" x 12" 1-color New Eras

POWER PAPER CUTTERS

Seybolds: 1—44" Late model Seybold Model P4460 New 1952; Dayton: 56" & 35"; 20th Century: 64", 54" & 38"; Holyoke: 55"; 10Z: 65", 50", 44"; 7Y: 34"; 3Y: 32"; Oswegos: 36"; Dexters: 50", 44" & 32"; C & P: 44"; National: 44".
1—84" Seybold Precision

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1—82" 10-10
1—72" Type 10 Rolling Bearing 2000 FPM
1—72" 10-11
1—72" Shear Cut, Type 10-04-8, 40" diam. rewind
1—72" Type 10-10A
1—62" Type 6 Stanford Web Guide & Variable Speed Drive
1—62" 40-1-AF
1—62" Type 42, for small rolls
1—52", & 1—42" Model 24-7.
1—42", 50" & 62" Type 6

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1—110" Langston (60" Diameter Rewind)
1—82" Langston Type B
1—60" Langston Type A
1—60" Inman With Reeves Drive
1—52" Meisel (Shear-Cut)
1—50" Knowlton Board Slitter (Heavy Duty)
1—50" Fales (Model "C") 4 sets fixed knives
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1—36" Kidder SLN (Shear Cut) Fully equipped for converting adding machine & teletype rolls.
2—24", 1—30", 1—36" & 1—40" Kidder S.L. Shear cut

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1—79" Moore & White Sheeter with 10 roll backstand and motor
1—55" CSH Beck Sheeter with automatic layboy
1—45" CCSH-5 Beck Jogger Table
1—45" CSH Beck Sheeter, Jogger Delivery
1—36"-45" and 1—55" Globe sheeters
1—30" Peters Cello Sheeter Model 744
Humblet Sheeters—32", 44", 48", 64", 104" & 90" Duplex
2—60" Potdevin Squeeze Roll Waxers
1—60" Hot Melt Coater & Laminator
1—46" Reverse Roll Coater
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1—Potdevin Model 110-L Cello Bag Machine
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1—Potdevin Model 72-C Cellophane satchel bottom bag machine
1—Potdevin Model 296 Duplex Coffee Bag Machine
1—#4 & 1—#5 Potdevin Diamond Shaped Bottom Sack Machines
2—Matador Model #26 & #100 Bag Machines
2—Custom Made Side-Weld Bag Machines, One with Electric eye
1—Model-C Cellophane Roto Bag Machine
1—Weber Model "CN" Cellophane Satchel Bottom Bag Machine
2—Po-2 Roto Polyethylene Bag Machines
1—48" Unicraft Embosser
1—3 Deck 13½ x 13½ Hudson Sharp ¼ Fold Napkin Machine with Embossing & Dispenser attachment
3—Seybold; 4—Post Die Presses 38" x 24", 44" x 30", 48" x 31" & 59" x 32"
2—Sheridans; 66" x 44" & 32" x 18"
1—Package Machinery Co.'s Traymaster Carton Gluer Model TL-100A
1—27" x 44" Dietz Single-Fold Towel Interfolder
1—New Hudson Sharp No. 10-T Rotary Towel Interfolder

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Graduate engineer with strong background in Power and Recovery plant engineering (operation or design) needed to head up power engineering group. Position offers unusual opportunity for advancement.

Plant manufactures bleached paper and board and is located in South Ea[illegible]. Outstanding management "fringe" benefit program.

Interviews can be arranged locally or at plant. Submit resume in confidence to:

Box 59-223 care Paper Trade Journal.

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Experienced process engineer needed for process and quality control. Plant beginning manufacture of coated boards and paper which offers good opportunities for advancement. Southeastern location.

Salary commensurate with ability and experience. Employee benefits are exceptional in pulp and paper industry.

Inquiries will be handled confidentially. Apply to:

Box 59-224 care Paper Trade Journal.

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1—128" B & S 10-Roll Calender Stack. King Roll 24" Dia. Heavy box frames, full set of doctors. Excellent Condition.
1—86" Farrel 3-Roll Calender Stack. Anti-friction Bearings. Excellent Condition.
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1—No. 3 Jones Pulpmaster, Late Type. Complete Drive.
1—Dilts #1 Hydrafiner, Anti-friction Bearings.
1—45" Seybold-Dayton Trimmer and Cutter with 5 H.P. 220/440 Volt Motor.
1—A.P.P. Rotary Centrifugal Pulp Screen, 40" Dia. x 42" Face. Serial #1274227. Like new. Capable of 40 ton groundwood pulp per day.
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2—Impco Rotary Pulp Screens.
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1—Hudson Sharpe Toilet Tissue Converting Machine, Ser. #2123. 8 Spare Mandrel Bars.
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Gear Reducers, P.I.V. Drives, Generators, S.S. Pumps, Stock Pumps, Plunger Pumps, Etc.

1000 Electric Motors from ¼ H.P. to 600 H.P. in Stock.

The above is but a small part of the inventory we carry. We can furnish you with almost anything in the line of paper mill, electrical and machine shop equipment.

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1—12 ft. diameter x 45 ft. long

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2—1300 lb. rag beaters, Valley Iron, bandless rolls, 54" x 48", cast iron tubs

CALENDER STACKS
1—3 roll 84" calender stack.
1—4 roll 72" Calender Stack. (Extra heavy duty).
1—5 roll 82" face.
1—5 roll 86".
1—7 roll, 84" face.

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1—96" Murray 4 knife Chipper—anti-friction bearings
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24—Chipper Knives 15⅞ x 8¼, 2 slot.

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3—42" diameter x 106" face
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1—10' high x 5' dia. High pressure vertical digester.

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1—Shartle 8" disintegrator (new) with 125 horsepower induction motor. (totally enclosed)

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1—#4 Reeves Drive
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1—Agitator drive
1—400 h.p.—Westinghouse Drive

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20—48" diameter x 48" face.
4—24" diameter x 80" face, Lukens High Pressure Dryers, anti friction bearings.
1—28" diameter x 84" face
2—30" diameter x 40" face with bearings
2—30" diameter x 48" face with bearings.
4—48" dia. x 52" face with frames, gears, bearings
1—36" diameter x 44" face
4—36" diameter x 76" face
5—36" diameter x 84" face and gears
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1—62" 2 roll Embosser.

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1—Extractor roll, 26" diameter x 104" face

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1—Dorr-Oliver Filter, 3 ft. dia. x 6 ft. face, stainless steel construction, with pump.

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1—8 Plate "Packer"
1—12 Plate "Packer"

FRAMES
Beloit Heavy Duty Dryer Frames for 100 Dryers (42" Dia.) 4 Stack. Immediate Delivery.

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1—20" Fourdrinier Wet End & Press Section
1—Bauer-McNett Fibre Classifier
2—8" x 8" Valley Sheet dryers
1—12" x 12" Valley Sheet dryer
1—6" diameter Hydraulic Press
1—Experimental Digester (High Pressure)
1—5 lb. Valley Beater.
1—15 lb. E. D. Jones Beater
1—8" x 8" Valley Hydraulic Press
1—Williams Freeness Tester, with Timer
1—Thwing Albert Tensile tester
1—Gurley Densometer Model 4110
1—12 x 12 Valley Sheet Mold
1—Greene Freeness Tester
2—Cady Micrometers

LAMINATING MACHINES
1—52" face Waldron Laminating Head
2—84" Asphalt laminators.

MISCELLANEOUS
1—#1 Miami Selectrap

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1—60 h.p. upright induction motor.
1—30 h.p. upright induction motor
1—200 HP General Electric Synchronous Motor and Starting Equipment (3/60/440, 360 RPM).
5—25 h.p. Westinghouse, totally enclosed, ball bearings, 705 r.p.m.
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PRESS ROLLS
2—Chilled iron, chrome plated 9" x 72"
1—Chilled iron, chrome plated 12" x 100"
1—Chilled iron, chrome plated 10" x 74"
2—Presses consisting 2 Rubber & 2 Granite Rolls, each 20" diameter x 120" face.

PULPERS
3—Dyno-Pulpers

PUMPS
1—Economy Fan Pump, 6000 g.p.m., 20' head, 50 h.p. motor.
1—Morris-10,000 g.p.m. 25 ft. head (all bronze)

REELS
1—200" Beloit Pope Reel, 72" finished roll
1—86" 2 bowl reel.
1—84" 3 bowl revolving reel.
1—100" Rice Barton 2 bowl Reel, heavy duty.
1—123" 3 bowl Revolving Reel
1—134" 2 drum
1—72" Downingtown Reel, 2 bowl

REFINERS
1—Dilts Classifiner, practically new
1—Rice Barton Dynofiner, details on request.
1—Dilts, #1 Hydrafiner, stainless steel filling, anti-friction bearings, excellent condition, including 125 h.p. motor
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1—double disc Bauer Refiner, with 2-150 h.p. motors
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1—Trimbey Consistency Regulator

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Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

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4—#2A Bird Rotary Screen, copper vats.
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1—LaMorte, 48" diameter x 82" face cylinder mold.
2—Savealls, cylinder molds, 42" diameter x 106" face, brand new vats.

SCREEN PLATES
Bird Rotary screen plates.

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1—132" Hamblet heavy duty duplex sheeter, anti-friction bearings throughout, including layboy and backstand.
1—84" Hamblet, duplex, back stands.

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1—16" "Swift" Paper Shredder

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1—32" Cameron Type 28-8-3, shear cut duplex, 30" rewind, constant tension and variable speed motor drive, practically new condition. Will lengthen up to 72" wide.
4—42" Cameron Type 6
3—50" Cameron Type 6
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1—102" Cameron Type 18, 60" diameter
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SLITTING DEVICE
84" Quick change slitting device shear cut, complete, practically new.

STOCK PUMP
1—10 x 20 Shartle Triplex

STRAINER
1—Elliott Twin Strainer, Type R

SUCTION COUCH SHELL
1—Downingtown suction couch shell only. 127½" face 26" diameter

SUCTION COUCH ROLL
1—Beloit, 36" diameter x 246" face, SKF bearings.

SUCTION FELT ROLLS
1—Gilbert & Nash 122" face
1—Beloit Rubber Covered Suction Felt Roll 109 face x 20½" diameter.

SUCTION PRESS SHELL
1—14" diameter x 100" drilled face, suction Press Shell only.

SUPER CALENDER STACK
1—9 Roll 56"

TABLE ROLLS
22—Rubber Covered 10" diameter x 246" face
30—4" dia. x 130" face (will cut to size)

THICKENERS
2—Iron End Vats with 36" diameter x 84" face Cylinder Molds and 20" diameter couch rolls, including spare cylinder mold and spare couch roll, all anti friction bearing equipped.

TOILET WINDERS
2—72" Hudson-Sharp (Surface type winder)

TRIMMERS
1—84" Seybold
1—36" Oswego

VACUUM PUMPS
1—H-3 Nash Vacuum Pump
3—#1 Nash Hytor vacuum pumps
1—#7 Nash Hytor vacuum pump with 75 h.p. synchronous motor.
2—Connersville, 14 x 20
2—#3 Nash Hytor
1—#4 Nash, with motor
3—L-5 Nash Vacuum Pumps

VATS
2—D. J. Murray Co. Vats, iron ends, for 42" x 120" cylinder molds, overflow and counterflow.
2—Brand new Downingtown Iron End Vats, copper lined, for 42" diameter x 112" face cylinder molds. Will cut down to your size.

VATS AND MOULDS
5—Stainless Steel Vats, with 36" Dia. x 100" Face Cylinder Moulds, anti-friction bearings, 2 Spare Cylinder Moulds, all in excellent condition.

VIBRATING SCREENS
1—Hummer electric Vibrating Screen, stainless steel
1—Selectro 2 stage, 5 ft. x 10 ft.
1—36" x 48" Vibrating Screen

WET MACHINES
1—22" Rogers Wet Machine.
1—84" Kamyr Complete Wet machine

YANKEE DRYERS
1—84" diameter x 56" face.
1—12 ft. diameter x 181½" face

Paddy Ross, Pres. **J. J. ROSS COMPANY** Ben Kurs, Treas.
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Graduate Mechanical or Electrical Engineer for new engineering and development work. Job will require some travel to operating units in North America. Will be located in Southeastern U. S. A.

Applicants must have experience with high pressure turbo-generators and boilers. Hydro-electric experience desirable as well as test course experience with manufacturer of electrical or steam equipment. Age up to 40 years. Good salary and promotional opportunities. Our employees know of this ad. All replies treated in confidence. Submit detailed resume to: Box 59-157, care Paper Trade Journal. T:

CHEMICAL ENGINEERS
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South's largest Newsprint Manufacturer has permanent position available for Chemical Engineers. Mill's Technical Staff now being enlarged because of extensive expansion program. Degree from accredited college required. Applicants with Pulp and/or Paper Mill experience will be given preference. Starting salary based on qualifications with periodic merit increases. Complete insurance, retirement, and vacation programs established. All replies will be answered and treated in confidence. Reply immediately submitting summary of experience to:

Industrial Relations Department
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Your reply giving personal, educational and work background will be kept in strict confidence.

Write Don Lindert,
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500 Investors Bldg., Minneapolis 2, Minnesota
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WANTED—INDUSTRIAL ENGINEER

Excellent opportunity for a graduate Industrial Engineer to do work in methods, plant layout, and statistics fields in a modern pulp and paper mill. Experience in pulp and paper industry desirable.

Send resume to: Personnel Department
P. H. GLATFELTER CO.
Spring Grove, Pa.
Phone—Spring Grove 321¢
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BUY U. S.
SAVINGS BONDS

Midwestern specialty pulp and paper mill desires a technical graduate to lead a research and development program. Two to four years experience essential with a knowledge of cotton linter pulps and papers helpful. Excellent opportunity for advancement. Send complete resumé of education and experience. Address Box 59-221 care Paper Trade Journal.
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Situations Wanted

EXECUTIVE - WORK MANAGER

--in manufacture of boards & papers; their conversion; and film. Wishes change for challenging opportunity. Successful record in production; organization; labor relations, & development. Address Box 59-137 care Paper Trade Journal. A-31

TECHNICAL EXECUTIVE—20 years of experience in paper coating and adhesives and specialty papers, seeks challenging opportunity. Address Box 59-201 care Paper Trade Journal. A-3

Wanted

BELGIAN PAPERMILL

WANTS TO BUY SUPERCALENDER SEPARATE FROM THE PAPERMACHINE. 12 ROLLS OF WHICH 6 CHILLED IRON ONES AND 6 WOOLY PAPER OR COTTON ONES. IN PERFECT RUNNING ORDER AND OF RECENT CONSTRUCTION. WORKING WIDTH 114". TOTAL PRESSURE 60-70 TONS. WORKING SPEED 985-1145 FEET/MIN., WITHOUT ELECTRIC EQUIPMENT. ADDRESS BOX 59-220 CARE PAPER TRADE JOURNAL. A-3

Wanted

WANTED—Layboy for 50" Hamblet Sheeter. S.T.W. Paper Co. Inc., Valatie, N. Y. A-24

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BARGAIN
IMMEDIATE DELIVERY

1—Farrell Roll Grinder, 30" Diameter x 130" Face. Complete. Excellent Condition.

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FOR SALE

Finishing Room Conveyors

48" wide steel slat conveyor
4—20' lengths
4—16' "
2— 5' " (5 HP Drive section)
2— 5' " (Adjustable tail section)
Like new

Fletcher Paper Co.
Alpena, Mich.
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. . . is the cancer quack, the man who claims he has a "secret cure" for cancer. There is no "secret cure" for cancer. But many cancers *can* be cured if detected and treated in their early stages by a qualified physician.

See your doctor regularly. Give him the chance to give *you* the chance of a lifetime. Ask your local American Cancer Society office for a copy of its anti-quack pamphlet, *"I Have a Secret Cure for Cancer."*

American Cancer Society

FOR SALE

1—Complete 2 cylinder Rice Barton Wet End—48" diameter Cylinder Molds—128" trim—with couch rolls, suction press roll, 3 primary presses, 3 main presses (one of the main presses anti-friction bearing equipped, 30" diameter rolls hydraulically operated)—including all felt equipment.

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SECTION of

Paper Trade Journal

PRACTICAL PAPER TECHNOLOGY

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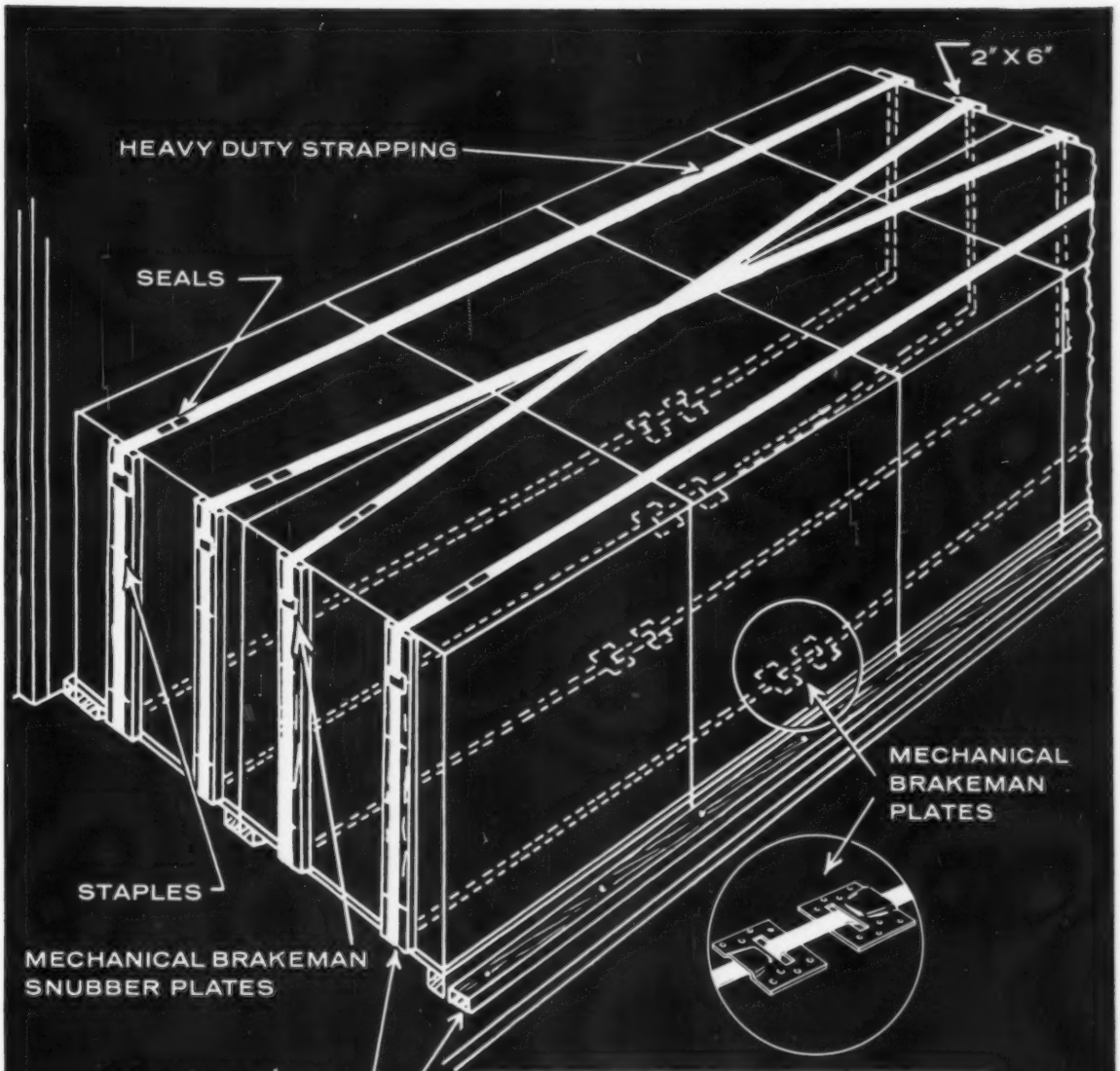

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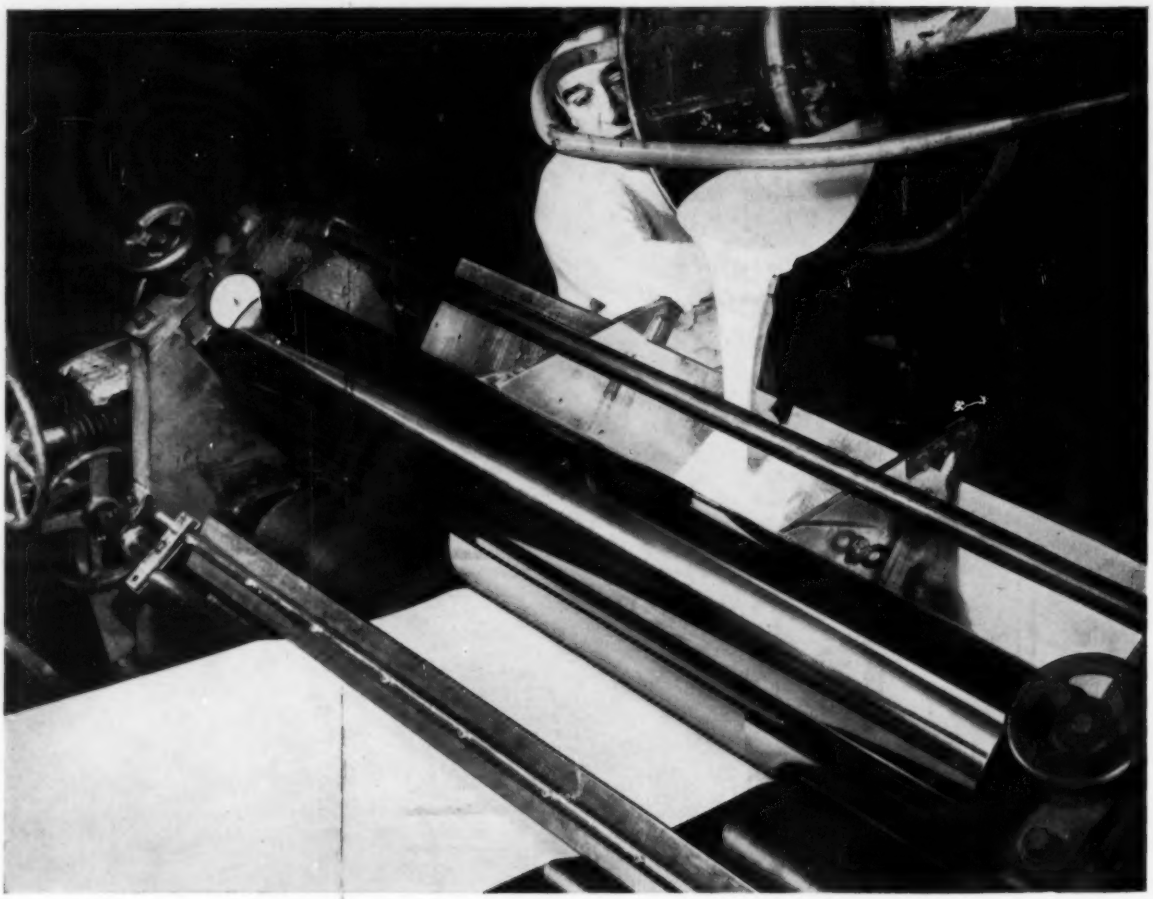

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